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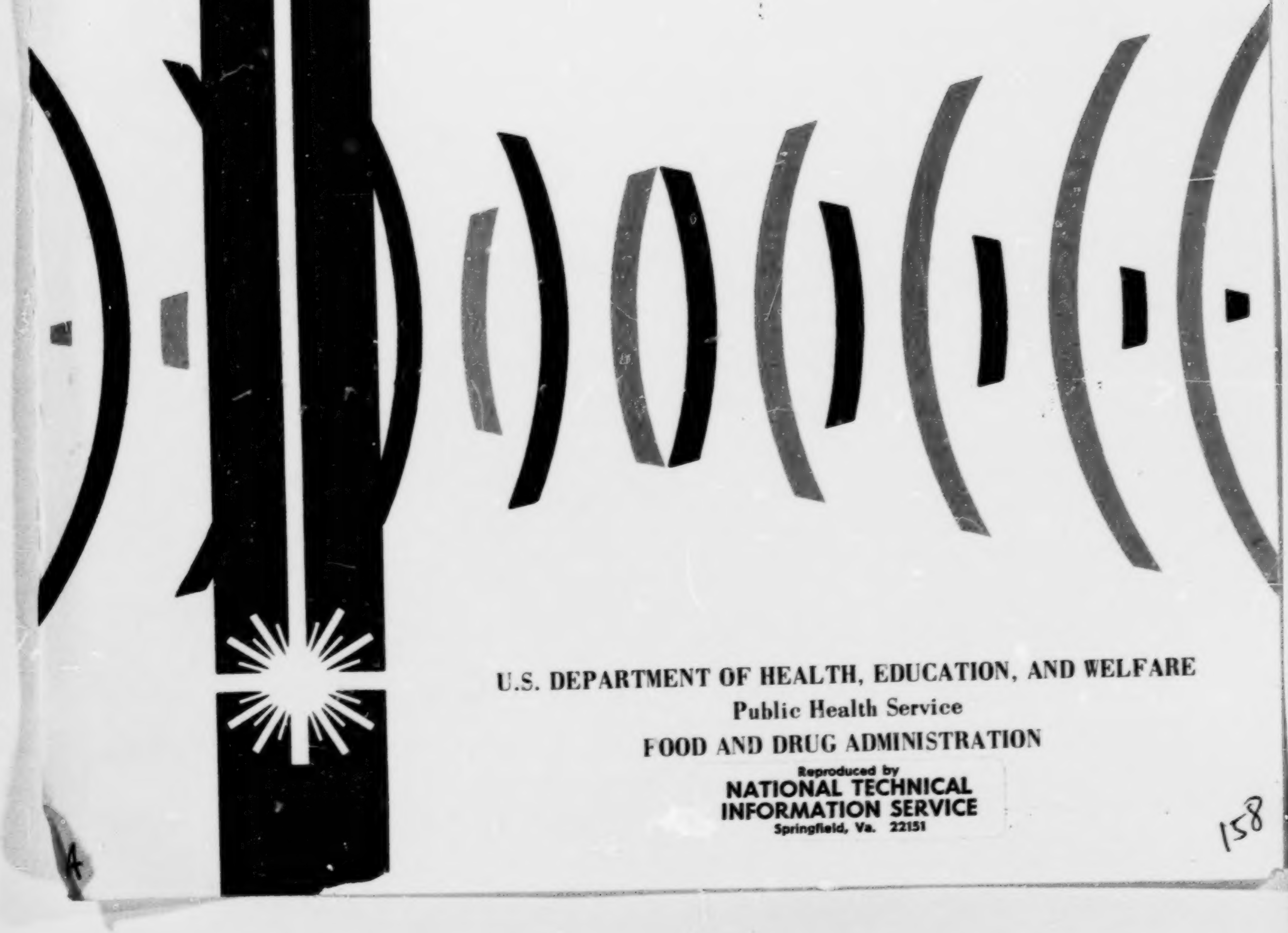
RESULTS of the 1970 MICROWAVE OVEN SURVEY



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Pursuant to the recommendations of the Ad Hoc Task Force on Microwave Ovens impaneled by the Surgeon General, a survey of microwave ovens was conducted to identify those makes and models which leak excessively and to have the manufacturers of those ovens exhibiting excessive leakage initiate appropriate corrective action. Over 4000 ovens, consisting of approximately 42 models produced by foreign and domestic manufacturers, were surveyed. As a result of the survey, seven manufacturers have agreed to implement corrective action programs to reduce the microwave radiation leakage from an estimated 10,000 ovens of the more than 100,000 ovens now in use.

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(continued on inside of back cover)

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RESULTS of the 1970 MICROWAVE OVEN SURVEY

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Intelligence Branch
Division of Electronic Products

August 1971

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
FOOD AND DRUG ADMINISTRATION
Bureau of Radiological Health
Rockville, Maryland 20852

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FOREWORD

The Bureau of Radiological Health continues to carry out a national program designed to reduce the exposure of man to hazardous ionizing and nonionizing radiation.

Within the Bureau, the Division of Electronic Products (1) develops and administers performance standards for radiation emissions from electronic products, (2) studies and evaluates emissions of and conditions of exposure to electronic product radiation and intense magnetic fields, (3) conducts or supports research, training, development, and inspections to control and minimize such hazards, and (4) tests and evaluates the effectiveness of procedures and techniques for minimizing such exposures.

The Bureau publishes its findings in appropriate scientific journals and technical report and technical note series for the Bureau's divisions, offices, and laboratories.

The technical reports and notes of the Division of Electronic Products allow comprehensive and rapid publishing of the results of intramural and contractor projects. The reports and notes are distributed to State and local radiological health program personnel, Bureau technical staff, Bureau advisory committee members, university radiation safety officers, libraries and information services, industry, hospitals, laboratories, schools, the press, and other interested individuals. They are also included in the collections of the Library of Congress and the National Technical Information Service.

I encourage the readers of these reports to inform the Bureau of any omissions or errors. Your additional comments or requests for further information are also solicited.

John C Villforth

John C. Villforth
Director
Bureau of Radiological Health

PREFACE

During 1969 the Bureau of Radiological Health and several State and local health agencies conducted a radiation emission survey of commercial and household microwave cooking ovens to determine whether the microwave leakage exceeded 10 mW/cm^2 at 5 cm from any oven surface, which was stated to be the maximum design leakage standard recognized by the industry. The results of the 1969 survey indicated that there was a need for a prompt survey of a larger sample of microwave ovens so that those makes and models emitting excessive microwave leakage could be identified and corrective action taken where necessary.

As a result of a January 12, 1970, meeting with representatives of the microwave oven industry, State and local health officials, and Bureau of Radiological Health representatives, the Surgeon General appointed a Task Force to define appropriate test procedures and to develop a test program to survey samples of microwave ovens then in use and to have manufacturers initiate corrective action where needed to assure that the ovens meet design specifications.

On January 30, 1970, this Ad Hoc Task Force submitted a report to the Surgeon General which set forth the guidelines for the conduct of a survey of microwave ovens. This report describes the implementation of those guidelines and presents an analysis of the data obtained.

Robert L. Elder, Sc.D.
Director
Division of Electronic Products

ACKNOWLEDGEMENTS

The authors wish to express their gratitude to personnel from the Bureau of Radiological Health's Office of Regional Operations, Data Systems and Mathematics Staff, Office of Training, Division of Electronic Products, and those participating State and local radiological health programs without whose help this study would not have been possible.

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ABSTRACT

Pursuant to the recommendations of the Ad Hoc Task Force on Microwave Ovens impaneled by the Surgeon General, a survey of microwave ovens was conducted to identify those makes and models which leak excessively and to have the manufacturers of those ovens exhibiting excessive leakage initiate appropriate corrective action. Over 4,000 ovens, consisting of approximately 42 models produced by foreign and domestic manufacturers, were surveyed. As a result of the survey, seven manufacturers have agreed to implement corrective action programs to reduce the microwave radiation leakage from an estimated 10,000 ovens of the more than 100,000 ovens now in use.

RESULTS OF THE 1970 MICROWAVE OVEN SURVEY

1. INTRODUCTION AND SUMMARY

During the period June 1, 1969, through December 29, 1969, the Bureau of Radiological Health and several State and local health agencies conducted a radiation emission survey of commercial and household microwave cooking ovens. In the absence of a Federal radiation emission performance standard for microwave ovens, the ovens were checked to determine whether the microwave leakage exceeded 10 mW/cm^2 at 5 cm from any accessible oven surface, which was stated to be the maximum design leakage standard recognized by the industry. In all 155 ovens were surveyed.

The results of the 1969 survey (see Appendix A) revealed that 51 of the ovens surveyed leaked microwave radiation in excess of 10 mW/cm^2 standard with the door closed or during door opening. In 18 of these instances door closures and interlocks were functioning so as to permit microwave leakage greater than 10 mW/cm^2 during door opening. When the results of this limited survey were extrapolated to the estimated population of 100,000 ovens then in use, it became apparent that there was a need for a prompt survey of a larger sample of these microwave ovens to identify the makes and models with excessive microwave leakage so that corrective action could be taken where necessary.

At the request of the Secretary of the Department of Health, Education, and Welfare, representatives of the microwave oven industry, a number of State health officials, Bureau of Radiological Health representatives, and other interested parties met in Washington, D. C., on January 12, 1970, to develop a plan for an efficient, prompt, and cooperative approach to the problem. As a result of the January 12th meeting, the Surgeon General appointed an Ad Hoc Task Force to define appropriate test procedures and to develop a test program to survey a sample of the microwave ovens then in use within a reasonably short time and initiate corrective action by manufacturers, where needed, to assure that the ovens meet their design specifications.

On January 30, 1970, the Ad Hoc Task Force prepared a report (see Appendix B) which was subsequently approved by the Surgeon General. This report recommended that the following items be provided by each individual microwave oven manufacturer to the Bureau of Radiological

Health: (1) data on the location of ovens, (2) a plan for locating, surveying, and servicing ovens, (3) contact points to which oven owners could be referred for information regarding surveys and service, and (4) the results of surveys and servicing performed pursuant to the recommendations of the Task Force. The report also described an acceptable microwave oven survey procedure and provided for the use of alternate procedures upon approval by the Bureau. In addition, the Bureau was asked to conduct an independent microwave oven radiation survey in cooperation with State and local health agencies to assure the effectiveness of the manufacturers' corrective action programs.

Pursuant to the recommendations of the Ad Hoc Task Force an industry-Government survey of over 4,000 microwave ovens was carried out in 1970. In those instances where a specific feature of the oven's design was identified as the cause of microwave radiation leakage in excess of 10 mW/cm^2 at 5 cm, the manufacturer was requested to arrange for corrective servicing of the ovens. In every instance where a manufacturer was requested to submit a corrective action plan to the Bureau, the manufacturer complied with the request and implemented the plan.

Analysis of the data from the 1970 survey indicated that:

(1) Radiation leakage from microwave ovens was a function of oven design, user maintenance, and the frequency of service. In most instances, excess leakage was caused by interlock maladjustment, inadequate maintenance, and infrequent servicing. Oven design appeared to contribute more to leakage from ovens manufactured prior to 1968.

(2) The most frequently observed cause of excess leakage was interlock maladjustment. For the purposes of this report, a maladjusted interlock was defined as one that permitted microwave leakage to exceed 10 mW/cm^2 during door opening. In all of the oven models surveyed this condition was detected and corrected.

(3) Proper maintenance on the part of the user and improved servicing, including a microwave emission measurement, will continue to play an important role in controlling microwave oven leakage.

(4) There is a need for the continued surveillance of microwave ovens to monitor the thoroughness of the manufacturers' corrective action programs and their efforts to improve their field service. capability in the area of microwave emission control.

2. SURVEY PLANNING

2.1 MANUFACTURER PARTICIPATION

On February 20, 1970, letters were sent to the manufacturers or distributors of residential and commercial microwave ovens then sold in the United States. The letter (see appendix C) transmitted a copy of the report of the Ad Hoc Task Force on Microwave Ovens and requested that each manufacturer submit the following information to the Bureau of Radiological Health within two weeks from the receipt of the letter:

"A. ... a summary of data on sales, service, and warranty records on microwave ovens, locating individual units by type within distinct geographical areas, e.g., States.

"B. ... a specific plan for locating and performing radiation surveys, in cooperation with Federal, State, and local health agencies, of microwave ovens in use and arrangements for corrective servicing where necessary. The service made available by the manufacturer shall include the following:

(1) Trained personnel
(2) Adequate instrumentation
(3) A method of labeling showing how, by whom, and when the ovens were measured and repaired, and the observed radiation leakage after repair
(4) Written instructions to owner regarding safe use, including interim instructions, if applicable, for ovens requiring repair.

The plan shall include a time schedule of events that will be followed to accomplish the program, including a schedule for reporting accomplishments to the Bureau of Radiological Health.

"C. Designate a point(s) of contact in each of the areas to which owners may be referred for service ... ."

The foregoing information was reviewed by personnel of the Bureau's Division of Electronic Products upon receipt. In those instances where any of the items requested were not provided, the manufacturer or distributor was requested to furnish the deficient information. When all requested information had been submitted and the representatives of the manufacturer and the Division of Electronic Products had agreed to the manufacturer's oven survey procedures, including a door interlock test, the manufacturer was notified that his survey plan "was approved" and that he could proceed with the survey of his ovens. Upon completion of the manufacturer's survey, meetings were arranged with each company to compare and discuss the implications of the manufacturer's and the Bureau's survey results.

If the manufacturer's and the Bureau's survey results indicated that the leakage of an oven model did not exceed the recognized industry leakage standard of 10 mW/cm^2 at 5 cm,measured with the Narda 8100 or an equivalent instrument, no further surveys of that model were deemed necessary. If the Bureau's or the manufacturer's survey results indicated that the microwave radiation leakage was in excess of 10 mW/cm^2 with the door closed or during door opening, the manufacturer was asked to submit a plan for reducing the leakage and to make the necessary adjustments on all ovens of that model. Section 5 contains a discussion of the survey results for each make and model of oven and the Bureau's recommendations for the continuation of oven sampling and implementation of corrective action programs where necessary.

2.2 STATE AND LOCAL HEALTH AGENCY PARTICIPATION

A copy of the Ad Hoc Task Force Report on Microwave Ovens was sent to each State Health Officer. The health officers were advised that details of the industry and Bureau surveys would be transmitted to them as soon as they were available (see appendix D).

At the April 1970 Annual Meeting of the Conference of State Radiation Protection Program Directors, a description of the Bureau-industry microwave oven survey plan was presented and the details of the survey were explained. The survey techniques and instrumentation which were to be employed with various makes of ovens were demonstrated. In addition to this seminar, the Bureau of Radiological Health made arrangements with certain State and local programs for the following assistance:

(1) The loan of survey instruments.

(2) The training of their personnel in survey techniques.

(3) The provision of forms for the collection of survey data.

(4) The transmittal of information regarding manufacturers contact points and survey plans.

As a result of this meeting, cooperative survey agreements were concluded between the Bureau and 18 State or local programs. These agreements have led to the survey of over 1000 microwave ovens in addition to those surveyed by the Bureau of Radiological Health and individual manufacturers. The data from those surveys are not included in this report because it was agreed that only Bureau and industry data would be used.

Throughout the period of time during which the State, Federal, and manufacturers' surveys were being conducted, information regarding manufacturers' survey plans and procedures and listings by manufacturers of oven models found to meet the Task Force recommendation, were transmitted to the States via the Bureau's Office of Regional Operations.

2.3 BUREAU OF RADIOLOGICAL HEALTH PARTICIPATION

2.3.1 Sample Selection Criteria

The selection of sample size and ovens surveyed by the Bureau was based on the following assumptions:

(1) Leakage characteristics of ovens made by one manufacturer are independent of those made by another manufacturer.

(2) Leakage variability associated with one oven model may be significantly different from that associated with other models of the same manufacturer.

(3) Changes in leakage variability should be insignificant for different geographic areas.

Assumption (1) enabled the selection of samples from each manufacturer independent of the sample sizes selected from other manufacturers. In the specification of the desired total sample, n, for a given manufacturer, consideration was given to (1) the total number of ovens, N, of the manufacturer in use and (2) the percent of ovens expected to leak above 10 mW/cm^2 (as suggested by the 1969 survey results).

Since little could be assumed concerning differences in oven leakage variability from model to model of a particular manufacturer, as indicated in assumption (2), proportional sampling was indicated. Thus, if P(M1) is defined as the proportion of N comprising model M1, then the number of model M1 specified for survey would be equal to P(M1) x n.

Assumption (3) allowed ovens to be selected geographically in as convenient a location as possible. Thus, given the geographic spread of available surveillance personnel, ovens were selected randomly in such a manner as to minimize travel costs per oven surveyed. The ovens an individual was initially asked to survey were restricted to those situated within a 100-mile radius of his official duty station.

The size of the sample of ovens surveyed by the Bureau was designed to be sufficient to carry out the following analyses of observed microwave leakage data:

(1) A comparison of the leakage from microwave ovens both before and after the industry surveys to determine if there was significant reduction in oven leakage as a result of the industry's survey and repair program.

(2) A confident estimation of the percent of ovens leaking above 10 mW/cm^2 prior to their inspection by industry for each oven model manufactured.

Samples which were large enough to permit reliable inferences in the above analyses were deemed to be of sufficient size to give reliable results in other analyses; for example, the determination of the relation between oven leakage rates and age (purchase date).

The objective in selecting the total sample size was to enable valid statistical inference to be carried out in the above analyses while remaining within cost, time, and personnel restrictions.

The maximum sample size was set at 300 ovens per manufacturer, and the sample size varied from one manufacturer to another according to the differences in the expected number of the manufacturer's ovens in use.

2.3.2 Sample Selection and Collection

The Bureau sample was selected in the following manner:

(1) On the basis of the number of oven owners identified by each manufacturer, the Division of Electronic Products determined a statistically valid sample size for that manufacturer.

(2) A list of owners (names and addresses) equal to or greater than the sample size was then selected from the oven owner list supplied by the manufacturer. Oven locations were selected from this list in such a manner as to include all ages and models of ovens, and to assure that the geographical distribution of the ovens favored those areas where Bureau of Radiological Health personnel (State assignees, Regional Representatives) were assigned and where State and local agencies had agreed to participate.

(3) The selected owner lists were then consolidated into a master list according to geographic location; i.e., State, City, County, or within 100 miles of a Bureau of Radiological Health surveyor. These lists, which constituted the Bureau sample, were sent to Bureau of Radiological Health surveyors.

(4) When sufficient data on all models of an individual manufacturer's oven had been received, these data were analyzed from both a technical and statistical standpoint.

Personnel who participated in the collection of the "Bureau's sample" were drawn from the Bureau's Division of Electronic Products, Regional Laboratories, and Office of Regional Operations; from State and local programs which had oven survey agreements with the Bureau of Radiological Health; and from other State and local health agencies which expressed a desire to participate in the survey. A field survey force of approximately 50 people was organized from these participating elements.

Personnel from the Bureau's Division of Electronic Products trained Bureau and Health Department personnel in survey procedures, conducted surveys of ovens in Government facilities, assisted State programs in those States participating in the survey, and provided overall planning and direction for the survey and the analyses of survey data.

The Laboratory Director of each of the Bureau's three Regional Laboratories named two persons to participate in the survey program. Those persons designated were trained in oven survey procedures. They instructed State and local agency personnel in survey techniques and participated in the performance of oven surveys in Federal installations.

The Bureau's Office of Regional Operations designated the 10 Regional Representatives as survey coordinators for States within their respective Regions. As survey coordinator, each Regional Representative ascertained which State or local programs in his Region would participate in the survey, advised State and local programs of the service center locations for each oven manufacturer, negotiated survey agreements with States desiring to participate in the survey program, arranged for the training of State and local participants, arranged for the loan of survey instruments to participating States, and supplied survey forms for use by the States and transmitted completed forms to the Division of Electronic Products.

The Office of Regional Operations and the Division of Electronic Products further agreed to use Bureau of Radiological Health State assignees to collect survey data in the States to which they were assigned.

3. SURVEY PROCEDURES

The instrumentation and test methods used for the survey are described in this section. A more detailed description of the survey procedures is presented in appendix E.

3.1 INSTRUMENTATION

All microwave leakage measurements were made with a Narda 8100 survey meter. This instrument employs two orthogonal antennas with a thermocouple detector and can measure frequencies of either 915 MHz or 2450 MHz, as applicable to the operating frequency of the oven.

Two probes, each of which could be scaled for two sensitivity ranges, were used with the Narda 8100. The red probe indicated leakage from 0 to 200 mW/cm^2 (high scale) and from 0 to 20 mW/cm^2 (low scale). The white probe indicated leakage from 0 to 20 mW/cm^2 (high scale) and from 0 to 2 mW/cm^2 (low scale). A spacer cone on the probe enabled the surveyor to maintain a measurement distance of 5 cm from the oven throughout the tests. The meter was used in its fast response position.

All measurements were made with a test load of 275 ml of water in a low-form 600-ml beaker placed in the center of the cooking cavity.

3.2 TEST METHODS

The actual survey consisted of leakage measurements and oven door interlock tests, as described in the following paragraphs.

3.2.1 Leakage Measurements

The oven was activated with the door in the closed position, and the Narda 8100 with the red probe was used on the high scale (200 mW/cm^2 full-scale deflection) to survey around the door. If any deflection was observed, the surveyor recorded the reading and the location at which it occurred in the appropriate place on the survey form (see appendix E). If no reading was obtained, the meter was set to the low scale and the oven resurveyed. If the red probe produced no reading on the low scale, the white probe was inserted and the oven resurveyed on both scales if necessary. If there was still no reading, the surveyor entered the measurement on the survey form as zero.

3.2.2 Oven Door Interlock Tests

The oven door interlock function was tested by opening the door with the oven on and ascertaining with the Narda 8100 whether microwave production had stopped. The purpose of this test was to determine whether the door interlocks functioned properly and would prevent the operator from being exposed to intense fields while he was opening the door.

Some ovens are designed so that the door must be unlatched or released at the handle before it can be opened, and this unlatching action activates an interlock which cuts off the power. To test the interlock function on ovens of this design, one member of the survey team slowly opened the door while the other carefully surveyed the opening with the red probe of the Narda 8100 (first on the high scale, then on the low). If no measurable emission was observed on either scale, the white probe was inserted and the oven resurveyed on both scales if necessary. If no emission was detected, the measurement was entered on the survey form as zero.

To test door interlock function on ovens without latch-activated interlocks, shims of increasing thickness were placed between the door and the cabinet until the oven could no longer be activated. Microwave leakage was monitored with the Narda 8100, and the surveyor recorded the last (highest) reading obtained and the associated shim thickness on the survey form.

Special door-opening test procedures approved for specific oven models are presented in appendix E.

4. ANALYSIS OF RESULTS

4.1 COMPARISON OF MANUFACTURER AND BUREAU OF RADIOLOGICAL HEALTH RESULTS

Most manufacturers inquired whether they could survey a sample of ovens that were either in their major marketing area or near their manufacturing facilities. Each manufacturer submitted his survey plan to the Bureau of Radiological Health and, upon Bureau approval, proceeded with his oven surveys. After these surveys were completed, the manufacturer submitted his data to the Bureau.

The survey results submitted by the manufacturer were reviewed to ensure that (1) the number of ovens surveyed was consistent with the number the manufacturer had agreed to survey, (2) all makes and models produced were included in the sample, and (3) the conclusions drawn on the basis of the data presented were valid.

The manufacturer's survey data and the data from the Bureau's surveys of that manufacturer's ovens were then compared. As a result of this comparison, the manufacturer was advised that either (1) the data indicated that his ovens met the Task Force recommendations and he could discontinue his surveys, or (2) the data indicated that a number of his ovens did not meet Task Force recommendations and he would be required to provide the Bureau with an acceptable plan for corrective action.

4.2 SUMMARY OF DATA

A total of 4,798 microwave ovens were surveyed during this project. The number surveyed for each manufacturer is listed in table 1. The actual sample size for a given manufacturer's models was proportional to the number of that model reported to be in use. Sampling for some models was curtailed when early results indicated that leakage variations were small and an estimate of the percent of ovens leaking above 10 mW/cm^2 could be made with sufficient confidence without additional surveys.

Results for the 1,295 ovens surveyed by the Bureau of Radiological Health are summarized categorically in tables 2, 3, 4, and 5. The Bureau sample provided data not reported in the manufacturers' survey results and so are analyzed in detail.

Table 2 shows the geographic distribution of the ovens surveyed in the Bureau sample. Ovens were selected from 25 States with no more than 16.5 percent of the sample coming from any one State.

Table 3 lists the ovens in the Bureau sample by year of purchase and indicates their distribution according to range of maximum leakage. Since ovens were chosen on the basis of availability, this table suggests that more than half of the ovens in use had been purchased during the last two years. Oven age was based on the time in use and not the time of manufacture. The percentage of ovens exhibiting leakage in excess of 10 mW/cm^2 was significantly lower for ovens purchased during 1970 than it was for ovens purchased before or during 1969. It was over this time period (1969-70) that increased publicity was given to the hazards of excessive leakage of microwave oven radiation.

Table 4 shows the distribution of ovens in the Bureau sample by range of maximum leakage and the principal fault noted by the surveyor which he judged was contributing to excessive radiation leakage. The most common fault noted was interlock maladjustment which generally resulted in excessive leakage during door opening.

Table 5 shows the distribution of ovens in the Bureau sample by type of establishment in which they were installed and range of maximum leakage. There was no significant difference among the leakage distributions for the three largest installation categories.

A listing of all open and closed door readings of microwave ovens in the Bureau sample is given for each manufacturer in appendix F. When a sample for a given model was sufficiently large, a statistical analysis was made of the results in order to estimate the percent of ovens leaking in excess of 10 mW/cm^2 and the degree of confidence in that estimate. The statistical summaries of data for specific models of each manufacturer are presented in appendix F. These summaries follow the listed results for each manufacturer and include:

(1) Three frequency distributions: (a) for microwave leakage with the oven door closed; (b) for microwave leakage with the oven door open; i.e., interlock test; and (c) for the maximum leakage measured with either the door open or closed. The sample size is indicated in the first (total) row of these distributions.

(2) Microwave oven leakage measurement statistics for both the door closed and interlock tests, including (a) mean reading, (b) estimated variance, (c) estimated standard deviation, (d) high reading, (e) low reading, (f) number of ovens with readings over 10 mW/cm^2, and (g) percent of ovens with readings over 10 mW/cm^2.

The statistical analyses and technical evaluation of aging effects indicated that excessive leakage in some cases resulted from faulty oven design and in others from inadequate maintenance and repair. In section 5, which follows, survey results for each microwave oven manufacturer are summarized and the implications drawn from these results are discussed.

Table 1. Number of microwave ovens surveyed by each manufacturer.

Manufacturer[a]	No. surveyed by BRH	No. surveyed jointly	No. surveyed by manufacturer	Total no. surveyed
Amana Refrigeration, Inc.	116	0	969	1,085
General Electric Company (including Hotpoint)	100[b]	88	88[b]	100
International Crystal Manufacturing Co., Inc.	54	0	385	439
Litton Industries, Inc.	353[b]	105	1,287	1,535
Magic Chef, Inc.	63	0	66	129
Raytheon Company	254	0	485	739
Roper Corporation	65[b]	34	82[b]	113
Sage Laboratories, Inc.	14	0	30	44
Sharp Electronics Corporation	12	0	32	44
The Tappan Company	123[b]	54	162[b]	231
Thermador	9	0	10	19
Thermo-Kinetics, Inc.	9	0	42	51
Toshiba America, Inc.	28	0	32	60
Victor Lynn Corporation (Omnivend)	77	0	60	137
Welbilt Corporation-Garland Division	11	0	23	34
Westinghouse Electric Corporation	7	0	31	38
Total	1,295[b]	281	3,784[b]	4,798

[a] See section 5 of report for model numbers.

[b] Includes ovens surveyed jointly with the manufacturer.

Table 2. Geographic distribution of the 1,295 ovens surveyed by the Bureau of Radiological Health.

State	Number surveyed	Percent of total surveyed
Alabama	171	13.2
Arkansas	65	5.0
California	39	3.0
District of Columbia	26	2.0
Florida	129	10.0
Georgia	5	0.4
Illinois	156	12.0
Indiana	4	0.3
Kansas	3	0.2
Kentucky	24	1.9
Maryland	64	4.9
Massachusetts	169	13.1
Michigan	88	6.8
Nebraska	1	0.1
Nevada	17	1.3
New Hampshire	25	1.9
New Jersey	17	1.3
Ohio	13	1.0
Pennsylvania	214	16.5
Rhode Island	11	0.8
Tennessee	2	0.2
Texas	4	0.3
Virginia	13	1.0
Washington	15	1.2
Wisconsin	20	1.5
Total	1,295	100.0

Table 3. Distribution of ovens in the Bureau's sample according to year of purchase and range of maximum microwave leakage.

Year of purchase	Number surveyed	Percent of total surveyed	Percent of ovens by range of maximum leakage[a]				
			< 0.1 mW/cm^2	0.1-1.0 mW/cm^2	1.1-5.0 mW/cm^2	5.1-10.0 mW/cm^2	> 10.0 mW/cm^2
1970	292	22.5	17.4	44.8	22.9	5.8	8.7
1969	347	26.7	19.3	26.8	25.0	8.3	21.3
1968	171	13.2	23.3	19.8	23.9	14.6	17.9
1967	115	8.8	6.9	21.7	28.6	10.4	32.0
1966	58	4.4	24.1	24.1	17.2	13.7	20.5
1965	37	2.8	24.3	10.8	16.2	13.5	35.1
1963-64	29	2.2	34.4	20.6	20.6	0.0	24.1
1960-62	13	1.0	7.6	0.0	0.0	0.0	92.4
1950[b]	6	0.4	0.0	16.6	0.0	16.6	66.6
Unknown	227	17.5	15.8	33.0	24.6	4.4	21.9
Total	1,295	100.0	18.2	29.5	23.6	8.2	20.5

[a] Maximum leakage is the maximum instrument reading for a given oven with the door closed or during door opening.

[b] Includes some ovens purchased prior to 1950.

Table 4. Distribution of ovens in the Bureau sample according to fault noted by surveyor and range of maximum microwave leakage.

Principal fault noted by surveyor	Number surveyed	Percent of total surveyed	Percent of ovens by range of maximum leakage[a]				
			< 0.1 mW/cm²	0.1-1.0 mW/cm²	1.1-5.0 mW/cm²	5.1-10.0 mW/cm²	> 10.0 mW/cm²
None noted	931	71.9	24.2	37.4	26.8	7.4	3.8
Hinges worn	17	1.3	0.0	11.7	41.1	23.5	23.5
Hinges broken	3	0.2	0.0	0.0	0.0	33.3	66.6
Hinges jammed	2	0.2	50.0	0.0	0.0	50.0	0.0
Door seal cracked	12	0.9	0.0	8.3	25.0	25.0	41.6
Door seal dirty	16	1.2	6.2	18.7	25.0	37.5	12.5
Door loose	26	2.0	3.8	3.8	19.2	7.6	65.3
Interlock failure	9	0.7	0.0	0.0	0.0	11.1	88.8
Power switch failure	4	0.3	25.0	50.0	0.0	25.0	0.0
Warning device failure	5	0.4	40.0	20.0	20.0	0.0	20.0
Shield bent	2	0.2	0.0	0.0	0.0	0.0	100.0
Defect in screen	3	0.2	0.0	0.0	0.0	0.0	100.0
Leakage at oven rear	6	0.5	0.0	50.0	50.0	0.0	0.0
Latch broken	8	0.6	12.5	25.0	12.5	12.5	37.5
Latch loose	2	0.2	0.0	0.0	0.0	0.0	100.0
Interlock maladjusted	205	15.8	0.4	3.4	11.7	6.3	77.8
Door misaligned	4	0.3	0.0	0.0	0.0	25.0	75.0
Air baffle malfunction	1	0.1	0.0	0.0	0.0	0.0	100.0
Unknown[b]	39	3.0	5.1	30.7	20.5	10.2	33.3

[a] Maximum leakage is the maximum instrument reading for a given oven with the door closed or during door opening.

[b] No fault indicated by surveyor.

Table 5. Distribution of ovens in the Bureau sample according to type of installation and range of maximum microwave leakage.

Type of installation	Number surveyed	Percent of total surveyed	Percent of ovens by range of maximum leakage[a]				
			< 0.1 mW/cm^2	0.1-1.0 mW/cm^2	1.1-5.0 mW/cm^2	5.1-10.0 mW/cm^2	> 10.0 mW/cm^2
Domestic	378	29.2	20.4	27.0	19.8	12.2	20.6
Canteen	317	24.5	15.8	26.5	26.2	7.3	23.7
Eating establishment	530	40.9	19.1	30.2	24.7	7.0	19.1
Retailer	53	4.1	7.5	64.2	17.0	1.9	9.4
Research	6	0.5	33.3	0.0	33.3	0.0	33.3
Unknown	11	0.8	18.2	27.3	54.5	0.0	0.0

[a] Maximum leakage is the maximum instrument reading for a given oven with the door closed or during door opening.

5. SURVEY RESULTS FOR EACH MANUFACTURER

5.1 AMANA REFRIGERATION, INC.

The survey plan covering Models RR-1 and RR-2 was approved on March 23, 1970. The total number of ovens surveyed was 1,085.

Model RR-1

	BRH	Amana
No. of ovens surveyed	19	285
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Model RR-2

	BRH	Amana
No. of ovens surveyed	97	684
No. of ovens leaking in excess of 10 mW/cm^2	0	0

The manufacturer was advised on June 22, 1970, that Models RR-1 and RR-2 met the Ad Hoc Task Force recommendations on microwave oven leakage. The Bureau survey was discontinued.

5.2 GENERAL ELECTRIC COMPANY

The survey plan covering two residential models and one commercial model was approved on July 13, 1970. A total of 100 ovens was surveyed. Survey results by model were as follows:

Model: Pre-Versatronic R

	BRH	G.E.
No. of ovens surveyed	18	18[a]
No. of ovens leaking in excess of 10 mW/cm^2	0	0

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[a] Joint survey with Bureau of Radiological Health

	BRH	G.E.
Model: Early Versatronic ®		
No. of ovens surveyed	26	26[a]
No. of ovens leaking in excess of 10 mW/cm^2	4	4
Model: Late Versatronic ®		
No. of ovens surveyed	44	44[a]
No. of ovens leaking in excess of 10 mW/cm^2	3	3
Model MW01		
No. of ovens surveyed	10	0
No. of ovens leaking in excess of 10 mW/cm^2	0	0
Model RE45 (Hotpoint)		
No. of ovens surveyed	2	0
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Excess leakage was attributed to improperly adjusted doors and radiation reflected from a metal or foil deflector. The manufacturer agreed to have field service personnel check door adjustment and replace the metal air deflector with a plastic deflector during routine servicing of ovens. The manufacturer was advised on September 1, 1970 that the Versatronic® Series and Model MW01C ovens met the Ad Hoc Task Force recommendations on microwave oven leakage. A similar notification covering Model RE45 (Hotpoint) was sent the manufacturer on December 28, 1970. The Bureau survey was discontinued.

5.3 INTERNATIONAL CRYSTAL MANUFACTURING COMPANY, INC.

The survey plan covering three models was approved on March 27, 1970. The manufacturer offered to supply the owner of each oven then in use with a Microlite 287, a preignited gas-filled lamp designed for testing power leakage of microwave ovens operating in the 2450 MHz range, and to ask each owner to survey his oven. Each owner was supplied survey instructions and forms for submitting the test results to the manufacturer. A total of 385 ovens was surveyed by owners in the suggested manner. The results of the survey by model were tabulated by the manufacturer and given to the Bureau of Radiological Health. Fifty-three ovens of known model type were surveyed separately by the Bureau using more precise methods; the model type of one oven surveyed was unknown. The results by model are:

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[a] Joint survey with BRH.

	BRH	International Crystal
Model 115		
No. of ovens surveyed	44	205
No. of ovens leaking in excess of 10 mW/cm^2	16	4
Model MC24		
No. of ovens surveyed	7	180
No. of ovens leaking in excess of 10 mW/cm^2	3	9
Model 19C010		
No. of ovens surveyed	2	0
No. of ovens leaking in excess of 10 mW/cm^2	1	0

On November 3, 1970, representatives of the Bureau met with the president of International Crystal Manufacturing Company, Inc., and reviewed the survey results. There was agreement that the differences between the two sets of data could be attributed to the differences in reliability of the survey techniques, and the manufacturer chose to be guided by the results of the Bureau sample. It was agreed that the leakage observed in Models 115 and MC24 was caused by interlock maladjustment. The manufacturer has agreed to adjust the interlocks on all Model 115 ovens with serial numbers 929 and below and Model MC24 ovens with serial numbers 2590 and below. The estimated completion date is December 31, 1971.

5.4 KELVINATOR, INC.

During 1957, Kelvinator, Inc. purchased 85 microwave ovens that had been manufactured by the Tappan Company. The ovens were of the Tappan R-Series and were sold under the Kelvinator label. The Tappan Company has now developed an "update kit" which, when permanently installed on the oven, reduces the microwave radiation leakage from ovens of this model, particularly during door opening. On February 22, 1971, a letter was sent to the president, Kelvinator Commercial Products, Inc., requesting that Kelvinator, Inc. develop a plan for the location and correction of the R-Series ovens still in use. On March 30, 1971, the Bureau was advised by Kelvinator, Inc. that (1) they plan to implement a corrective action program on the Tappan-made ovens, and (2) warranty sales data on 57 of the 85 ovens had been located, and they will attempt to contact all oven owners to inform them of the opportunity to modify their ovens.

5.5 LITTON INDUSTRIES, INC.

The survey plan covering Models 300, 500, 550, 800, and 850 was approved on March 30, 1970. Litton agreed to: (1) survey its ovens in the field on a continuing basis or, when the ovens are owned by other companies, to have the ovens surveyed and provide the results of the surveys to the Bureau; (2) provide all field service personnel with a metal shim for checking interlock adjustment; (3) conduct training courses in microwave emission measurement for field service personnel; and (4) proceed with the development and distribution of a field survey instrument for measurement of microwave emission at 2450 MHz. The total number of Litton ovens surveyed was 1,535. Seven ovens surveyed were either of unknown model type or models no longer manufactured. An additional 92 surveys of the Litton Model 300 series ovens were made by Litton field service personnel. The data from those surveys indicated that none of the 92 ovens had leakage rates in excess of 10 mW/cm^2. No surveys were made of the Litton Model 800 oven since this oven is identical in operating characteristics to the Litton Model 850. Other results of the survey by model are as follows:

Model 500	BRH	Litton
No. of ovens surveyed	162	657
No. of ovens leaking in excess of 10 mW/cm^2	40	45

Model 550

	BRH	Litton
No. of ovens surveyed	165	466
No. of ovens leaking in excess of 10 mW/cm^2	26	32

Model 850

	BRH	Litton
No. of ovens surveyed	19	59
No. of ovens leaking in excess of 10 mW/cm^2	0	0

The difference in observed leakage rates was attributed to variations in survey procedures, in the distribution of oven locations, and the high workload associated with the ovens. The Bureau sample was heavily weighted with surveys of ovens located in restaurants, while the Litton sample was weighted with surveys of ovens located in automatic vending establishments. The ovens in automatic vending establishments were said to have a high servicing frequency, and, consequently, a lower percentage of ovens that leaked in excess of 10 mW/cm^2 would be expected.

A total of 129 training sessions for 1,304 field service personnel had been held as of December 22, 1970.

Production of the Litton Model 2450 survey meter was initiated in July 1970.

Litton Industries, Inc., Atherton Division, was advised on February 1, 1970, that Models 300, 500, 550, and 850 met the recommendations of the Ad Hoc Task Force on microwave oven leakage control when operated in accordance with the manufacturer's instructions and recommended servicing policies. The Bureau survey was discontinued.

5.6 MAGIC CHEF, INC.

The survey plan covering oven Model MC75.01 was approved on June 23, 1970. A total of 129 ovens was surveyed. Seven ovens surveyed were of unknown model type or of models no longer manufactured. The results of the survey for Model MC75 were as follows:

Model MC75

	BRH	Magic Chef
No. of ovens surveyed	56	66
No. of ovens leaking in excess of 10 mW/cm^2	22	7

The data were reviewed with representatives of Magic Chef. Because of the large percentage of ovens in the Bureau sample that leaked in excess of 10 mW/cm^2, Magic Chef was requested to submit a plan for adjusting the interlocks on the Magic Chef Model 75.01 ovens then in use.

The corrective action program was approved on November 23, 1970. Under the plan, Magic Chef will instruct its service stations to adjust the interlocks on all Model 75.01 ovens. The estimated completion date is August 1971.

5.7 RAYTHEON COMPANY

Raytheon Company, Microwave and Power Tube Division, no longer produces microwave ovens; the last of a total of 6,000 ovens was produced and sold by the end of 1968.

On April 22, 1970, a survey plan covering Raytheon Models 1161, Mark III, IV, V, and VI was approved. A total of 739 ovens was surveyed. Two were of unknown model type. The results for known models follow:

Model 1161

	BRH	Raytheon
No. of ovens surveyed	7	19
No. of ovens leaking in excess of 10 mW/cm^2	3	14

Mark III

	BRH	Raytheon
No. of ovens surveyed	7	12
No. of ovens leaking in excess of 10 mW/cm^2	5	12

Mark IV

	BRH	Raytheon
No. of ovens surveyed	33	54
No. of ovens leaking in excess of 10 mW/cm^2	2	2

Mark V

	BRH	Raytheon
No. of ovens surveyed	136	200
No. of ovens leaking in excess of 10 mW/cm^2	19	40

Mark VI

	BRH	Raytheon
No. of ovens surveyed	69	200
No. of ovens leaking in excess of 10 mW/cm^2	5	8

A meeting with representatives of the Raytheon Company was held on December 9, 1970, at which time the Raytheon Company presented a plan for reducing the leakage on those Raytheon ovens still in use. The plan was approved by the Bureau and is now being implemented by the manufacturer. The estimated completion date is September 1971.

5.8 ROPER CORPORATION

The survey plan covering Roper Models 992, 994, and 995 was approved on May 13, 1970. A total of 113 ovens was surveyed with the following results:

Model 992

	BRH	Roper
No. of ovens surveyed	19	48
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Model 994

	BRH	Roper
No. of ovens surveyed	25	13[a]
No. of ovens leaking in excess of 10 mW/cm^2	17	7

Model 995

	BRH	Roper
No. of ovens surveyed	21	21[a]
No. of ovens leaking in excess of 10 mW/cm^2	3	0

The data were reviewed with the manufacturer on October 15, 1970, at which time the manufacturer was requested to submit a plan for adjusting the interlocks on Model 994 ovens. The correction plan was approved on November 19, 1970. Under the plan, the Roper Corporation agreed to have its factory service technicians adjust the interlocks on all Model 994 ovens for which first purchaser records were available. Two hundred and eighteen ovens were adjusted.

On January 8, 1971, the Roper Corporation was advised that Models 992, 994, and 995 met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau survey was discontinued.

5.9 SAGE LABORATORIES, INC.

The survey plan covering the Sage Model 3015D microwave oven was approved on June 15, 1970. The following results were obtained:

Model 3015D

	BRH	Sage
No. of ovens surveyed	14	30
No. of ovens leaking in excess of 10 mW/cm^2	1	0

Sage Laboratories was advised on November 13, 1970, that oven Model 3015D met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau survey was discontinued.

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[a] Joint survey with BRH.

5.10 SHARP ELECTRONICS CORPORATION

The survey plan was approved on August 1, 1970. Forty-four ovens were surveyed with the following results:

Model R-5500

	BRH	Sharp
No. of ovens surveyed	12	32
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Sharp Electronics Corporation was advised on November 20, 1970, that oven Model R-5500 met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau survey was discontinued.

5.11 THE TAPPAN COMPANY

The survey plan covering the R-Series, Models 77-15, 77-1399, 56-1139, and 57-1920 was approved on July 15, 1970. The results were:

	BRH	Tappan
Model R-Series		
No. of ovens surveyed	54	54[a]
No. of ovens leaking in excess of 10 mW/cm^2	49	
Model 77-15		
No. of ovens surveyed	29	58
No. of ovens leaking in excess of 10 mW/cm^2	7	1
Model 77-1399		
No. of ovens surveyed	19	15
No. of ovens leaking in excess of 10 mW/cm^2	7	0

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[a] Joint survey with BRH.

Model 56-1139

	BRH	Tappan
No. of ovens surveyed	17	22
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Model-57-1920

No. of ovens surveyed	4	13
No. of ovens leaking in excess of 10 mW/cm^2	0	0

A meeting was held with representatives of the Tappan Company on September 30, 1970, at which time the survey data were reviewed. Tappan was requested to submit a plan for reducing the leakage from R-Series ovens and for ensuring correct interlock adjustment on all other models to meet the Ad Hoc Task Force recommendations on microwave oven leakage.

The R-Series update program was approved on October 12, 1970. Under the plan, Tappan developed a new gasket material which, when permanently installed on the face of the oven, reduces the leakage. Tappan sent letters to owners of R-Series ovens advising them that the installation of this "update kit" on their oven would reduce microwave radiation leakage during door opening. Further, the letter explained to oven owners the cost and procedure to follow if they desired to have the kit installed. As of January 27, 1971, 3,000 oven owners, out of an estimated 8,288, had indicated they wanted the kit installed. Since this series was produced between 1956 and 1968, an accurate total of the ovens still in use is unknown. On February 9, 1971, Tappan was requested by the Bureau of Radiological Health to send a followup letter to those oven owners who had not replied to the initial letter in order to give them a second chance to react to the update program. The update program for the R-Series ovens is still in progress. The estimated completion date is September 1971.

The interlock adjustment program for the other Tappan oven models was approved on December 9, 1970. The Tappan Company was advised on January 7, 1971, that Models 77-1399, 57-1920, 77-15, and 56-1139 met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau surveys of these four models were discontinued.

5.12 THERMADOR

The survey plan covering Models MTR-11, MTR-12, and MTR-24 was approved on June 15, 1970. A total of 19 ovens was surveyed with the following results:

Model MTR-11[a]

	BRH	Thermador
No. of ovens surveyed	3	5
No. of ovens leaking in excess of 10 mW/cm^2	0	0

Model MTR-24

	BRH	Thermador
No. of ovens surveyed	6	5
No. of ovens leaking in excess of 10 mW/cm^2	0	0

The manufacturer was advised on November 20, 1970, that Models MTR-11, MTR-12, and MTR-24 met the Ad Hoc Task Force recommendations on microwave oven leakage. The Bureau survey was discontinued.

5.13 THERMO-KINETICS, INC.

The survey plan was approved on April 17, 1970. Under the plan a total of 51 ovens was surveyed. The results were as follows:

Model 2500

	BRH	Thermo-Kinetics
No. of ovens surveyed	9	42
No. of ovens leaking in excess of 10 mW/cm^2	4	42[b]

The survey results were discussed with the manufacturer, and the manufacturer has agreed to adjust or replace interlock switches on all ovens now in use. The estimated completion date of corrective action is September 1, 1971.

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[a] No surveys were performed on the MTR-12 oven because it is identical with the MTR-11 except that microwave cooking and/or infrared browning can be done simultaneously on the MTR-12.

[b] During door opening.

5.14 TOSHIBA AMERICA, INC.

The survey plan was approved on March 26, 1970. The manufacturer agreed to survey 32 ovens and Bureau of Radiological Health 28 ovens. The following results were obtained:

Model ER602B

	BRH	Toshiba
No. of ovens surveyed	28	32
No. of ovens leaking in excess of 10 mW/cm^2	1	4

The interlocks on ovens were adjusted. The manufacturer will resurvey these ovens annually during December 1971 and 1972 and submit the results to the Bureau. Toshiba America, Inc. was advised on September 9, 1970, that oven Model ER602B met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau survey was discontinued.

5.15 VICTOR LYNN CORPORATION (OMNIVEND)

The survey plans covering the Model 110-Speedrange were approved on May 12, 1970. Two of the 137 ovens surveyed were of unknown model type. The results for the Model 110 were as follows:

Model 110

	BRH	Victor Lynn
No. of ovens surveyed	75	60
No. of ovens leaking in excess of 10 mW/cm^2	12	0

Data were reviewed with a representative of the Victor Lynn Corporation on November 12, 1970, at which time it was disclosed that the Victor Lynn measurements were made with a survey instrument different from that used by the Bureau of Radiological Health. The manufacturer's representative agreed to be guided by the Bureau readings and said that the Victor Lynn Corporation would submit a plan for adjustment of the interlocks on all of their ovens.

Recent changes in corporate ownership have delayed submission of the corrective action program because the present owners are uncertain as to whether they want to assume responsibility for a product they did not manufacture. Letters were sent on February 19, 1970, to present and former owners of Victor Lynn Corporation requesting their cooperation. The need for further action will be reviewed by the Bureau.

5.16 WELBILT CORPORATION-GARLAND DIVISION

The survey plan covering Models EM-1 and EM-2 was approved on June 15, 1970. Thirty-four ovens were surveyed with the following results:

	BRH	Welbilt
Model EM-1		
No. of ovens surveyed	2	9
No. of ovens leaking in excess of 10 mW/cm^2	0	0
Model EM-2		
No. of ovens surveyed	9	14
No. of ovens leaking in excess of 10 mW/cm^2	0	1[a]

The Welbilt Corporation was advised on January 18, 1971, that Models EM-1 and EM-2 met the Ad Hoc Task Force recommendations on microwave oven leakage control. The Bureau survey was discontinued.

5.17 WESTINGHOUSE ELECTRIC CORPORATION

Early Westinghouse microwave ovens (pre-1968) were manufactured by the Tappan Company and were of the Tappan R-Series. The Westinghouse Electric Corporation has made arrangements with the Tappan Company for the purchase of gasket material which, when permanently installed on Tappan R-Series ovens, reduces the leakage during door opening. The Westinghouse Electric Corporation is now attempting to locate those microwave ovens of Tappan manufacture. The owners of the ovens will be sent a letter which describes the details and costs of the Westinghouse modernization plan. Modernization kits will be installed on those ovens whose owners indicate they want the kit installed. The estimated completion date of the modernization program is November 1971.

The Westinghouse Electric Corporation is presently selling a Model KM520 oven. Thirty-eight Model KM520 ovens were surveyed with the following results:

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[a] Oven was reported to have been subjected to severe abuse.

Model KM-520

	BRH	Westinghouse
No. of ovens surveyed	7	31
No. of ovens leaking in excess of 10 mW/cm^2	0	0

On October 15, 1970, Westinghouse Electric Corporation was advised that its Model KM520 microwave oven met the Ad Hoc Task Force recommendations on microwave oven leakage. The Bureau survey of this model was discontinued.

5.18 WHIRLPOOL CORPORATION

During 1956 the Whirlpool Corporation purchased 392 microwave ovens from the Tappan Company. The ovens were of the Tappan R-Series and were sold under the RCA-Whirlpool label. The Tappan Company has now developed an "update kit" which, when permanently installed on the oven, reduces the microwave radiation leakage from ovens of this model particularly during door opening. On February 22, 1971, a letter was sent to the president of the Whirlpool Corporation requesting that the Whirlpool Corporation develop a plan for the location and correction of the R-Series RCA-Whirlpool ovens still in use. On March 9, 1971, the Whirlpool Corporation submitted plans for the location and correction of those Whirlpool microwave ovens manufactured by the Tappan Company. The estimated completion date is December 1971.

6. SUMMARY OF ACCOMPLISHMENTS

Pursuant to the recommendations of the Ad Hoc Task Force on Microwave Ovens, the objectives of the 1970 microwave oven survey were to identify those makes and models of microwave ovens which leak excessively and to have the manufacturers of those ovens which exhibit excessive leakage initiate appropriate corrective action. During the survey microwave leakage measurements were made on over 4,000 ovens, consisting of approximately 42 models produced by foreign and domestic manufacturers. As a result of the data obtained, seven manufacturers have agreed to implement or have implemented corrective action programs to reduce the microwave radiation leakage from an estimated 10,000 of the more than 100,000 ovens now in use. Hence, the objectives of the survey have been met.

The program conducted jointly by the Bureau of Radiological Health and the microwave oven industry has resulted in a number of accomplishments that can be expected to have enduring results.

(1) Survey Instrument Development - Prior to the survey there was only one generally accepted survey meter for use in the measurement of microwave emissions. Three new instruments of somewhat more limited application have been developed by oven manufacturers. These instruments help fulfill the need for a low-cost durable field instrument which can be used by customer service personnel to detect excessive radiation leakage.

(2) Training of Customer Service Personnel - Every oven manufacturer now has some type of program underway to train customer service personnel in microwave emission survey and reduction techniques. One major manufacturer has conducted 129 training sessions and has trained 1,304 service technicians from 376 different organizations in microwave oven survey techniques.

(3) Training of State and Local Health Department Personnel - Microwave oven survey instruments and survey procedures have been made available to all State and local health agencies. More than 1,000 ovens have been surveyed by these agencies.

(4) Enactment of a Federal Microwave Oven Performance Standard - On October 6, 1970, the Department of Health, Education, and Welfare published a performance standard for microwave ovens.[1] This standard will apply to all ovens manufactured after October 6, 1971.

In spite of these accomplishments, there is a need for the continued surveillance of microwave ovens to monitor (1) the thoroughness of the manufacturers' corrective action programs, (2) the manufacturers' efforts to improve their customer service capability in the area of owner and operator education and microwave emission control, and (3) compliance with the microwave oven performance standard.

---

[1] FEDERAL REGISTER, Volume 35, No. 195. Title 42, Part 78, Performance Standard for Microwave Ovens, pp.15619-15666 (October 6, 1970).

APPENDIX A

DATA FROM THE 1969 SURVEY OF 155 RESIDENTIAL AND COMMERCIAL MICROWAVE OVEN INSTALLATIONS
(December 1969)

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TABLE 1 - MICROWAVE OVEN SURVEY FIELD DATA SUMMARY

MANUFACTURER	OVENS SURVEYED	MAXIMUM LEAKAGE POWER DENSITY (mW/cm^2) DOOR CLOSED OR DOOR OPEN						
		≤1.0	1.1-5.0	5.1-10.0	10.1-20	20.1-30.0	30.1-40.0	>40
Amana	21	12	6	2	0	1	0	0
Litton	95	25	28	13	12	9	2	6
Magic Chef	2	0	1	1	0	0	0	0
Omnivend	12	2	3	3	1	0	1	2
Raytheon	16	2	4	0	1	4	2	3
Tappan	9	1	1	1	1	1	0	4
TOTAL	155 (100)	42 (27.1)	43 (27.7)	20 (12.8)	15 (9.7)	15 (9.7)	5 (3.2)	15 (9.7)

( ) = Percent of total ovens surveyed

Table 2. Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Amana	-	4.0	4.0	10/2/69	Unknown	New Jersey
"	RR-1	0.0	.03	12/8/69	not sold	Massachusetts
"	RR-1	30.0	1.0	6/16/69	9/68	New York
"	"	3.0	1.0	6/17/69	6/68	"
"	"	7.0	0.0	6/17/69	6/68	"
"	"	9.0	1.0	6/18/69	Unknown	"
"	"	2.0	1.0	6/18/69	12/68	"
"	"	3.0	1.0	6/19/69	10/68	"
"	"	0.0	0.0	12/9/69	4/68	Massachusetts
"	"	0.0	0.2	12/9/69	not sold	"
"	"	0.0	0.0	12/11/69	9/68	"
"	"	0.0	0.0	12/11/69	6/68	"
"	"	0.0	0.0	12/11/69	4/68	"
"	"	0.0	0.0	12/11/69	12/68	"
"	RR-2	3.0	1.0	6/19/69	Unknown	New York
"	RR-1	0.8	0.75	8/5/69	Unknown	Mississippi
"	"	3.0	0.0	8/5/69	12/68	"
"	"	0.6	0.2	8/5/69	Unknown	"
"	RR-2	0.0	0.0	12/12/69	7/69	Massachusetts
"	"	0.0	0.0	12/12/69	10/69	"
"	"	0.0	0.5	12/8/69	3/69	"
Litton	Big One	0.0	0.9	12/8/69	6/68	"
"	-	0.0	30.0	12/11/69	*/67	"
"	-	2.5	0.0	8/5/69	Unknown	Mississippi
"	500	0.0	1.8	9/30/69	3/4/69	New Jersey
"	"	0.3	0.3	9/30/69	Unknown	"
"	"	110.0	35.0	10/1/69	7/68	"
"	"	10.0	0.5	10/1/69	*/65	"
"	"	10.0	5.0	10/1/69	7/69	"

Changes made 1/30/70

Table 2. Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Litton	500	5.0	7.0	10/1/69	3/69	New Jersey
"	"	4.0	0.3	10/1/69	Unknown	"
"	"	12.0	9.0	10/1/69	8/69	"
"	"	2.0	0.2	10/1/69	8/69	"
"	"	7.0	7.0	10/1/69	8/68	"
"	"	45.0	30.0	10/1/69	8/68	"
"	"	0.0	0.5	12/8/69	1/67	Massachusetts
"	"	0.0	7.0	12/8/69	*/66	"
"	"	0.0	4.0	12/10/69	*/66	"
"	"	0.0	10.0	12/10/69	*/66	"
"	"	0.0	2.0	12/10/69	Unknown	"
"	"	0.0	1.0	12/10/69	Unknown	"
"	"	0.0	10.0	12/10/69	*/66	"
"	"	0.0	100.0	12/10/69	*/66	"
"	"	0.0	25.0	12/10/69	*/66	"
"	"	0.0	25.0	12/10/69	*/66	"
"	"	0.0	0.4	12/10/69	*/67	"
"	"	0.0	0.7	12/11/69	2/68	"
"	"	0.0	55.0	12/11/69	2/68	"
"	"	0.0	4.0	12/11/69	*/65	"
"	"	0.0	0.5	12/12/69	5/69	"
"	"	0.0	2.0	12/12/69	*/66	"
"	"	0.0	2.0	12/8/69	*/66	"
"	"	0.0	2.0	12/8/69	Unknown	"
"	"	0.0	1.5	12/8/69	10/69	"
"	"	0.0	3.0	12/9/69	*/67	"
"	"	0.0	4.0	12/9/69	Unknown	"
"	"	0.0	3.0	12/10/69	6/68	"
"	"	0.0	.5	12/10/69	*/66	"

Table 2: Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Litton	500	0.0	3.0	12/10/69	*/65	Massachusetts
"	"	0.0	2.0	12/10/69	9/68	"
"	"	0.0	0.5	12/10/69	*/66	"
"	"	0.0	0.0	12/10/69	1/67	"
"	"	0.0	0.0	12/10/69	1/67	"
"	"	0.0	25.0	12/10/69	1/68	"
"	"	0.0	15.0	12/10/69	1/68	"
"	"	0.0	0.5	12/10/69	3/69	"
"	"	0.0	1.0	12/10/69	3/69	"
"	"	0.0	15.0	12/11/69	5/68	"
"	"	0.0	1.0	12/11/69	5/68	"
"	"	0.0	3.0	12/11/69	7/68	"
"	"	0.0	10.0	12/11/69	7/68	"
"	"	0.0	30.0	12/11/69	7/68	"
"	550	30.0	10.0	6/20/69	Unknown	New York
"	"	100.0	15.0	6/20/69	Unknown	"
"	"	10.0	2.0	6/20/69	Unknown	"
"	"	0.0	20.0	6/20/69	Unknown	"
"	"	15.0	2.0	6/20/69	Unknown	"
"	"	20.0	1.0	6/20/69	Unknown	"
"	"	7.0	1.0	6/20/69	Unknown	"
"	"	20.0	1.0	6/20/69	Unknown	"
"	500	30.0	5.0	6/20/69	*/67	"
"	550	0.0	0.5	12/8/69	3/69	Massachusetts
"	"	0.0	1.5	12/8/69	3/69	"
"	"	0.0	20.0	12/9/69	11/68	"
"	"	0.0	40.0	12/9/69	11/68	"
"	"	0.0	5.0	12/10/69	6/68	"
"	"	0.0	0.3	12/10/69	9/69	"
"	"	0.0	4.0	12/10/69	12/68	"
"	"	0.0	25.0	12/10/69	*/67	"

Changes made 1/30/70

Table 2. Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Litton	550	0.0	3.0	12/11/69	Unknown	Massachusetts
"	"	0.0	45.0	12/11/69	Unknown	"
"	"	0.0	0.2	12/11/69	Unknown	"
"	"	0.0	10.0	12/11/69	Unknown	"
"	"	0.0	0.1	12/11/69	*/69	"
"	"	0.0	2.0	12/12/69	2/69	"
"	"	0.0	1.0	12/11/69	6/68	"
"	"	0.0	2.0	12/11/69	*/67	"
"	"	0.0	2.0	12/11/69	10/68	"
"	"	0.0	10.0	12/11/69	10/68	"
"	"	0.0	2.0	12/11/69	6/68	"
"	"	0.0	20.0	12/12/69	*/67	"
"	"	0.0	8.0	12/12/69	*/68	"
"	"	0.0	2.0	12/12/69	6/69	"
"	"	0.0	2.0	12/8/69	2/69	"
"	"	0.0	40.0	12/8/69	*/66	"
"	"	0.0	20.0	12/8/69	Unknown	"
"	"	0.0	20.0	12/8/69	*/66	"
"	"	0.0	25.0	12/9/69	*/66	"
"	"	0.0	0.5	12/9/69	8/69	"
"	"	0.0	3.0	12/10/69	1/68	"
"	"	0.0	0.6	12/10/69	1/69	"
Litton	710	0.0	0.4	12/8/69	6/69	Massachusetts
"	800SWD	0.0	1.0	9/30/69	5/69	New Jersey
"	800	0.0	1.0	6/20/69	11/68	New York
"	"	0.0	1.0	6/20/69	Unknown	"
"	"	0.0	1.0	6/20/69	Unknown	"
Magic Chef		0.0	9.0	12/11/69	*/69	Massachusetts
Magic Chef		0.0	4.0	12/11/69	*/69	"
Omnivend	110	35.0	10.0	6/17/69	Unknown	New York

Table 2. Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Omnivend	110	20.0	20.0	6/17/69	6/68	New York
"	"	7.0	3.0	6/17/69	1/67	"
"	"	8.0	4.0	6/17/69	1/60	"
"	"	50.0	1.0	6/18/69	1/68	"
"	"	2.0	2.0	6/19/69	4/68	"
"	"	5.0	5.0	6/19/69	6/68	"
"	"	0.6	0.6	9/30/69	12/65	New Jersey
"	"	5.0	9.5	9/30/69	3/67	"
"	"	3.5	3.0	9/30/69	2/69	"
"	"	0.4	0.4	9/30/69	12/65	"
"	"	35.0	55.0	9/30/69	6/66	"
Raytheon	Mark I	25.0	11.0	6/16/69	Unknown	New York
"	Lot 3	60.0	8.5	6/19/69	*/64	"
"	Lot 5	15.0	6.0	6/18/69	4/68	"
"	Mark 4D	2.5	3.0	9/30/69	*/65	New Jersey
"	Mark V	3.0	1.0	6/19/69	*/66	New Jersey
"	"	7.0	35.0	9/30/69	6/67	New Jersey
"	"	0.7	4.0	9/30/69	9/67	"
"	"	0.0	80.0	9/30/69	*/60	"
"	"	25.0	11.0	9/30/69	60 - 62	"
"	"	30.0	25.0	9/30/69	Unknown	"
"	"	2.0	0.5	10/1/69	Unknown	"
"	"	0.2	0.3	10/2/69	*/67	"
"	"	35.0	7.0	10/2/69	1/68	"
"	Mark VI	0.0	0.1	12/11/69	*/67	Massachusetts
"	1161	23.0	23.0	10/1/69	early 50's	New Jersey
"	11618	110.0	20.0	9/29/69	*/60	"
Tappan	-	0.0	25.0	12/11/69	*/57	Massachusetts
"	-	140.0	20.0	10/2/69	1/65	New Jersey

Table 2. Microwave Oven Survey Data (6/1/69 - 12/22/69)

Manufacturer	Model No.	Narda mW/cm^2 Doors		Survey Data		State
		Open	Closed	Date Surveyed	Date Purchased	
Tappan	-	140.0	80.0	10/2/69	1/65	New Jersey
"	R4A	90.0	0.7	10/2/69	1/69	"
"	"	0.0	1.0	6/6/69	Unknown	New York
"	R4C	3.0	0.1	8/5/69	6/63	Mississippi
"	400	10.0	12.0	8/5/69	8/65	"
"	400	6.0	2.0	8/5/69	Unknown	"
"	No. 8	200.0	30.0	10/2/69	1/65	New Jersey
Raytheon**	Lot 5	1.0	0.1			New York

* - Date purchased is unknown

** - Add to Raytheon lot 5 (Information received after survey data published)

Table 3. Average Minutes Of Operation Per Day By Type Of Installation

Type of Installation	Average Minutes Of Oven Operation Per Day									Total
	<60	61-120	121-180	181-240	241-300	301-360	361-420	> 600	Unknown	
Home	16	0	0	0	0	0	0	0	6	22
Commercial Eating Establishments (Restaurants)	23	11	8	8	13	44	3	13	21	104
Snack Bars	4	6	0	1	0	0	0	0	0	11
Hospital Food Service Dept.	2	10	0	0	0	0	0	0	1	13
Dept Store Demonstration Units	4	0	1	0	0	0	0	0	0	5
TOTAL	49	27	9	9	13	4	3	13	28	155

TABLE 4
SUMMARY
RADIATION LEAKAGE BY DEFECT

HOME

	≤ 1	1.1-5	5.1-10	10.1-20	20.1-30	30.1-40	> 40	TOTALS
No Visual Defects	10	3	3		1		1	18
Hinge: Loose								
Broken								
Defective Timer								
Interlock Failure		2					1	3
Defective Door							1	1
TOTAL	10	5	3		1		3	22
				COMMERCIAL				
No Visual Defect	30	34	15	12	13	4	5	113
Hinge loose	1			2				3
Hinge Broken				1				1
Defective Timer		1						1
Interlock Failure		1	2				3	6
Defective Door		1			1	1	5	8
Defective Screen Assembly	1							1
TOTAL	32	37	17	15	14	5	13	133

TABLE 5

SUMMARY

RADIATION LEAKAGE BY PURCHASE DATE

DATE	TOTAL	0-1	1.1-5	5.1-10	10.1-20	20.1-30	30.1-40	> 40
TOTAL	155	42	42	20	15	15	5	16
1969	31	15	11	4	1	-	-	-
Oct 18 - Dec 1968	10	1	4	2	1	-	1	1
Jan - Oct 1968	34	9	9	3	4	3	1	5
1967	17	5	3	3	2	3	1	-
1966	15	3	2	3	1	3	-	3
1965	11	2	3	1	1	1	-	3
1964	1	-	-	-	-	-	-	1
1962	1	-	1	-	-	-	-	-
1961	-	-	-	-	-	-	-	-
1960	3	-	-	1	-	1	-	1
1957	1	-	-	-	-	-	-	1
Early 1950's	1	-	-	-	-	1	-	-
UNKNOWN	30	7	9	3	5	3	2	1

TABLE 6

SUMMARY
RADIATION LEAKAGE BY AGE

DATE	GRAND TOTAL	HOME							COMMERCIAL						
		≤1	1.1-5	5.1-10	10.1-20	20.1-30	30.1-40	>40	≤1	1.1-5	5.1-10	10.1-20	20.1-30	30.1-40	>40
1969	31	3							12	11	4	1			
Oct 18 - Dec 1968	10	1	3				1	1		1	2	1		1	
Jan 1 - Oct 17, 68	34	5		1		1		1	4	9	2	4	2	1	4
1967	17								5	3	3	2	3	1	
1966	15								3	2	3	1	3		3
1965	11				1				2	3	1		1		3
1964	1														1
1962	1		1												
1960	3										1		1		1
1957	1							1							
Early 50's	1												1		
UNKNOWN	30		1	2					7	8	1	5	3	2	1
TOTAL	155	9	5	3	1	1		3	33	37	17	14	14	5	13

APPENDIX B

REPORT OF THE AD HOC TASK FORCE ON MICROWAVE OVENS, INCLUDING MEMORANDUM TO THE SURGEON GENERAL

C O P Y

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CONSUMER PROTECTION AND ENVIRONMENTAL HEALTH SERVICE
ENVIRONMENTAL CONTROL ADMINISTRATION

Date: January 30, 1970

Reply to Attn of:

Subject: Ad Hoc Task Force on Microwave Ovens

To: Surgeon General

1. The Ad Hoc Task Force on Microwave Ovens met on January 19 and 20, 1970, in Conference Room 400, 12720 Twinbrook Parkway, Rockville, Maryland.

2. The Task Force was requested to define the test procedures and to develop a program to survey existing microwave ovens as soon as possible. Defects, when found, are to be corrected so that the Department can be assured that ovens meet design specifications.

3. The attached report was drafted and approved by a telegraphic poll of Task Force members on January 26, 1970. A summary of replies to the poll is also attached. The report requires each individual microwave oven manufacturer or, if applicable, the distributor to: 1) provide data on location of ovens, 2) submit a plan for locating, surveying, and servicing ovens, 3) designate contact points to which owners may be referred for service, and 4) report results of surveys and servicing to the Bureau of Radiological Health. The report also describes an acceptable microwave oven survey procedure and provides for the approval of alternate procedures by the Bureau of Radiological Health.

4. There was a difference of opinion as to the need for a radiation survey of all ovens in use. Some members felt that every microwave oven owner should have the opportunity for a radiation survey and corrective servicing. Other members took the position that a statistically reliable sample could be obtained which would provide assurance that ovens were within the recommended radiation emission levels.

5. Some members stated that the level for corrective service should be 10 mW/cm^2 or lower and preferred 1 or 5 mW/cm^2, the values proposed by the Bureau of Radiological Health and approved by the Technical Electronic Product Radiation Safety Standards Committee as a part of a performance standard for new microwave ovens.

6. Some industry Task Force members recommended corrective service at levels ranging from 20 to 50 mW/cm^2 based on oven production dates.

7. Other questions raised by Task Force members can be resolved, I believe, by the submission of plans by individual manufacturers and subsequent conferences between manufacturers and the Bureau of Radiological Health staff.

8. As Chairman of the Ad Hoc Task Force, I recommend you approve this report, including a requirement for corrective servicing of oven leakage at a microwave radiation power density level of 10 mW/cm^2.

9. With your approval:

a. The Bureau of Radiological Health will request implementation of Ad Hoc Task Force recommendations by all microwave oven manufacturers and distributors.

b. The Bureau of Radiological Health, with the assistance of State and local health agencies, will arrange for independent radiation surveys to assure the effectiveness of the industry correction program.

c. I will deactivate the Ad Hoc Task Force and send letters of appreciation to all members.

d. I will keep you informed of industry and government progress in achieving an effective correction of microwave oven radiation leakage.

/s/ Raymond T. Moore

Raymond T. Moore, M.D.
Chairman

5 Enclosures
Task Force Report with list of members
Telegram to members
Draft Report dated 1/20/70 p.m. with Alternate Proposal
Summary of comments from members
Individual replies received to date

COPY

REPORT OF THE AD HOC TASK FORCE ON MICROWAVE OVENS

Approved by:

/s/ Jesse L. Steinfeld — 2-17-70
Jesse L. Steinfeld, M.D. — Date
Surgeon General

Submitted by:

/s/ Raymond T. Moore — 1/30/70
Raymond T. Moore, M.D. — Date
Chairman

1/20/70 p.m. Revised

Report of the Ad Hoc Task Force on Microwave Ovens

The Ad Hoc Task Force met at the request of the Surgeon General on January 19 and 20, 1970, in Conference Room 400, 12720 Twinbrook Parkway, Rockville, Maryland.

In attendance were the listed representatives of industry, and Federal, State, and local health agencies and consumer interests.

During the initial meeting of the Task Force, the following were agreed upon:

1. The available data on radiation leakage from microwave ovens require additional surveys by industry and government.

2. Each microwave oven manufacturer or, if applicable, the distributor, should arrange for corrective servicing for those ovens which exceed the current "AHAM" industry design specification (10 mW/cm^2 measured at 5 cm. from surface of appliance averaged over not more than a 30-second period using a NARDA 8100-type instrument). Radiation measurements should be made during operation with the door closed and while opening the door by a test procedure approved by the Bureau of Radiological Health.

3. Each microwave oven manufacturer or, if applicable, the distributor, should be requested to take the following action:

   A. Submit to the Bureau of Radiological Health a summary of data on sales, service, and warranty records on microwave ovens, locating individual units by type within distinct geographical areas, e.g., States.

   B. Submit to the Bureau of Radiological Health a specific plan for locating and performing radiation surveys, in cooperation with Federal, State, and local health agencies, of microwave ovens in use and arrangements for corrective servicing where necessary. The service made available by the manufacturer shall include the following:

      (1) Trained personnel

      (2) Adequate instrumentation

      (3) A method of labeling showing how, by whom, and when the ovens were measured and repaired and the observed radiation leakage after repair

      (4) Written instructions to owner regarding safe use, including interim instructions, if applicable, for ovens requiring repair

      The plan shall include a time schedule of events that will be followed to accomplish the program, including a schedule for reporting accomplishments to the Bureau of Radiological Health.

   C. Designate a point(s) of contact in each of the areas to which owners may be referred for service, and advise the Bureau of

Radiological Health of these contact points.

D. Report the results of each radiation survey and corrective servicing to the Bureau of Radiological Health as soon as practicable.

Initial response on items A, B, and C above shall be submitted to the Bureau of Radiological Health within two weeks from receipt of the request.

4. The survey test methods and instrumentation requirements given in Appendix A are recognized as adequate for use in continuing surveys of the microwave ovens in use. The procedures may require adaptations in terms of the specific needs of individual manufacturers or microwave oven designs. Such adaptations should be submitted to the Bureau of Radiological Health for approval. Other instrumentation may be approved by the Bureau of Radiological Health if its suitability can be shown by the company proposing its use.

5. Training courses and technical assistance on survey procedures and instrumentation should be provided by the Department of Health, Education, and Welfare with the assistance of State and local health agencies and industry.

Ad Hoc Task Force on Microwave Ovens

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Appendix A

MICROWAVE OVEN SURVEY PROCEDURES
(Abstracted from Microwave Oven Surveys DEP 69-7)

A Narda 8100 survey meter employing two orthogonal antennas with a thermocouple detector is used to make measurements of leakage close to a microwave source having a frequency of 2450 MHz or 915 MHz as applicable. All measurements are made with a 275 milliliters water test load in the center of the cooking cavity and with the survey instrument 5 cm from the oven. The oven interlock function is tested by opening the door with the oven on and ascertaining with the survey instrument whether microwave production has stopped. All measurements are made with the instrument in its fast response mode. The actual survey consists of the following two tests:

1. Measurement of leakage

   a. Activate the oven with the door closed and survey around the door, using the Narda 8100 with the red probe (20/200 mW/cm^2) and the instrument set to read 200 mW/cm^2 at full scale deflection. If any reading occurs, record the reading and the location on the oven at which it occurred, in the appropriate place on the survey form.

   b. If no reading is obtained, drop to the 20 mW/cm^2 scale and resurvey. If there is no reading at this level, replace the red probe with the white probe (2/20 mW/cm^2), "zero" the meter and resurvey the oven on both scales, if necessary. If there is still no reading, enter the measurement as zero.

2. Oven Door Interlock Test

   The purpose of this test is to determine whether or not the interlocks operate fast enough to cut off the production of microwaves, so that merely opening the door will not expose the operator to an intense field. Using the Narda 8100 with the high level probe (the red one), one team member will open the door slowly, while the other will survey the opening very carefully, keeping his eye on the meter, so as not to let the needle go off scale, as this means that the probe has been destroyed. If the oven produces no measurable emission on either scale of the red probe, then insert the white probe, "zero" the meter, and resurvey on both scales. If at this point no emission is detected enter zero as the measurement. On some ovens, the door must be unlatched or released at the handle in order to be opened and this action activates an interlock cutting off the power. In this instance, there would be no need to perform the full test, unless the performance of the first part of the test indicates that there is some emission.

APPENDIX C

LETTER FROM DIRECTOR, BRH, TO MANUFACTURERS OF MICROWAVE OVENS SOLD IN THE U.S. REQUESTING THEIR PARTICIPATION IN THE SURVEY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
ENVIRONMENTAL HEALTH SERVICE
ROCKVILLE, MARYLAND 20852

ENVIRONMENTAL CONTROL
ADMINISTRATION

February 20, 1970

The report of the Ad Hoc Task Force on Microwave Ovens, appointed by the Surgeon General to define appropriate test procedures, and to develop a test program for surveying microwave ovens now in use, has been approved by the Surgeon General. The Bureau of Radiological Health has been given the responsibility of directing the implementation of Ad Hoc Task Force recommendations.

I have enclosed, for your information, a copy of the Report of the Ad Hoc Task Force on Microwave Ovens. Item 3 of the report requests that each manufacturer, or if applicable the distributor, shall upon request submit to the Bureau of Radiological Health within two weeks from the receipt of the request:

> A. A summary of data on sales, service, and warranty records of microwave ovens, locating individual units by type within distinct geographical areas, e.g., States.
>
> B. A specific plan for locating and performing radiation surveys, in cooperation with Federal, State, and local health agencies, of microwave ovens in use and arrangements for corrective servicing where necessary. The service made available by the manufacturer shall include the following:
>
> (1) trained personnel
>
> (2) adequate instrumentation
>
> (3) a method of labeling showing how, by whom, and when the ovens were measured and repaired and the observed radiation leakage after repair.

(4) written instructions to owner regarding safe use, including interim instructions, if applicable, for ovens requiring repair.

The plan shall include a time schedule of events that will be followed to accomplish the program, including a schedule for reporting accomplishments to the Bureau of Radiological Health.

C. Designation of a point(s) of contact in each of the areas to which owners may be referred for service.

Your initial response to items A, B, and C above should be submitted to the Bureau of Radiological Health on or before March 10, 1970.

I have enclosed a copy of the letter that has been sent to each State Health Officer, advising him of the action the Bureau has taken to implement the Task Force recommendations.

If you have any questions relative to the information I have requested, contact Dr. Robert L. Elder, Acting Director, Division of Electronic Products, Bureau of Radiological Health (AC 301 - 496-8867).

Sincerely yours,

John C. Villforth
Director
Bureau of Radiological Health

2 Enclosures

APPENDIX D

LETTER FROM DIRECTOR, BRH, TO STATE HEALTH OFFICERS REQUESTING THEIR COOPERATION IN THE SURVEY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CONSUMER PROTECTION AND ENVIRONMENTAL HEALTH SERVICE
ROCKVILLE, MARYLAND 20852

ENVIRONMENTAL CONTROL
ADMINISTRATION

TO STATE HEALTH OFFICERS
LOUISIANA ATOMIC ENERGY COMMISSION
ARIZONA ATOMIC ENERGY COMMISSION

Dear ______________________:

Enclosed for your information is a copy of the report of the Ad Hoc Task Force on Microwave Ovens which has recently received approval of the Surgeon General. The report specifies corrective actions needed to assure the safety of microwave ovens.

Items 3 and 5 of the report may be of special interest to you. Please note that Item 3B of the report calling for cooperative industry-government surveys does not necessarily mean these will be conducted jointly. Industry information called for in Item 3C concerning designated points of contact to which owners of microwave ovens may be referred for surveys will be provided to you as soon as it becomes available.

Several States are already conducting microwave oven surveys in cooperation with the Bureau of Radiological Health. It is likely that more such surveys will be needed in the near future. Specific details on the need and extent of such surveys will be determined within the next few weeks, at which time we may ask for the cooperation of your State.

Thank you for your cooperation.

Sincerely yours,

John C. Villforth
Director
Bureau of Radiological Health

Enclosure

APPENDIX E

MICROWAVE OVEN SURVEY PROCEDURES

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BUREAU OF RADIOLOGICAL HEALTH

MICROWAVE OVEN SURVEY PROCEDURES

A. All data will be collected on forms provided by the Bureau of Radiological Health.

B. All measurements will be made with a Narda Model 8100 Electromagnetic Radiation Survey meter. Record the maximum reading found 2' from the oven surface. If the value varies with time, record the average value. Set up the meter and oven to be tested as follows:

1. Use of Narda 8100:

   Two probes may be used during this survey --- a red probe which may be used up to 200 mW/cm^2 at the meter higher range setting and up to 20 mW/cm^2 at the lower range setting. A white probe is available which measures up to 20 and 2 mW/cm^2 at the high and low range settings respectively. Begin a survey with the red probe and then change to the white probe, if needed, for more accurate measurements. The probe is to be held perpendicular to the oven surface which is being surveyed.

   > IMPORTANT: Narda sensing probes may be damaged if exposed beyond their rated capacity. Keep unused probes in the shielded carrying case or a safe distance away from microwave sources.

   The following procedures are to be followed:

   a. Connect probe to meter-- red probe first, white probe next, if necessary.

   b Set meter to proper frequency -- either 915 MHz or 2450 MHz, as determined by oven being surveyed.

c. Attach spacer cone to probe for 2450 MHz or antenna cone for 915 MHz. Each of these cones creates a 2' oven to probe distance.

d. Set response switch to "FAST" position.

e. Turn meter "ON".

f. Zero meter with "ZERO" knob.

g. Turn "TEST" knob to "BATTERY" position and then to "PROBE" position. For each test the needle should read above the "TEST MIN" mark. If not, do not use this meter and/or probe.

h. Place load in oven and activate oven. Use the "HIGH" heat power position for those ovens which have a choice of "HIGH" or "LOW". (See B 2 and C below)

i. Make measurements with the probe perpendicular to the oven surface -- Begin with "RANGE" setting in the high position and, when necessary, change to the low position. Take care to rezero the meter after each change in "RANGE" setting.

2. The Load:

The load will consist of 275 ml of water in a 600 ml low form beaker. Change water should boiling occur. The load is to be placed as close as possible to the center of the cooking cavity.

IMPORTANT: Oven operation with no load may result in oven damage.

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C. The Survey shall basically consist of two determinations -- a door interlock check and a leakage measurement.

1. Adequacy of Door Interlock:

   There are two methods for peforming this test. Each is described below. See Table A to determine appropriate test for each particular oven model.

   a. Jerk Test - To be used only on ovens having a latch that activates an interlock.

      (1) With the meter and water load set up as in "B" above, activate the oven.

      (2) Unlatch the oven and slowly open the door, while surveying the perimeter of the door. Start with the red probe, using high and low range then, if necessary, repeat using the white probe.

      (3.) Record reading on survey form.

      (4.) If no leakage is found, enter result as "ZERO". Also indicate the position of the maximum radiation by refering to the "CHART FOR OVEN DOOR POSITIONS" on the survey form.

      (5.) Make notation "NO SHIM" beside drawing of oven door on survey form.

      (6.) If radiation is found to be above 10 mW/cm^2, the interlock is considered to be inadequate.

(7) If interlock is inadequate, refer owner to manufacturer's service center, unless otherwise instructed in Table A.

(8) Carefully note any peculiarities or difficulties in in the survey procedure, using the bottom or back of the survey form.

b. Shim Test - To be used on ovens which do not have door latch activated interlocks.

Most ovens (See Table A) will be given the "PROGRESSIVE SHIM TEST" as described below. However in some instances only one shim thickness will be used on a given oven model. The shims are of five (5) thicknesses. All are two (2) inches long and 1/2 inches wide. The standard thicknesses are 1/16 inch, 1/8 inch, 1/4 inch, 1/2 inch and 3/4 inch. These can be used in various combinations to obtain thicknesses from 1/16 inch to 1 11/16 inch (See Table "B").

(1) Shims are to be placed between the door and the cabinet of the oven. Shims are to be located opposite the hinge side of the door. (If the oven has hinges on the left side, insert shims on the right edge. If hinges are at the bottom, then insert shims at the top of the oven).

IMPORTANT: Do NOT insert shim between the cabinet and pressure plate or screen assembly, as this may result in deformation of the door.

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(2) Place the shims (tape, if necessary) in their proper location, close the door, and activate the oven, NOT closing latchs, when possible.

(3) Increase shim thickness in intervals of 1/16" until the oven will not turn on, firmly holding the door if necessary.

IMPORTANT: Do NOT deform the door.

(4) When the oven will no longer activate:

(a) Enter the last reading that was obtained.

(b) Write down the associated shim thickness (last one at which oven could be activated) next to the drawing of the oven door on the survey form.

(5) Indicate the position of maximum radiation by referring to the "CHART FOR OVEN DOOR POSITIONS" on the survey form.

(6) NOTE: For certain manufacturers, such as Amana, only one shim size is used. For those, record the reading if the oven may be activated, or enter "ZERO."

(7) If radiation from any oven is found to be above 10 mW/cm^2, the interlock is considered to be inadequate, except as specified differently in Table A.

(8) If interlock is inadequate, refer owner to manufacturer's service center, unless otherwise instructed in Table A.

(9) Carefully note any peculiarities or difficulties in the survey procedure, using the bottom or back of the survey form.

2. Leakage Test

a. With the meter and water load set up as in "B" above, activate the oven with the door closed.

b. Survey around the door and screen, holding the probe perpendicular to the oven surface being surveyed. Start with the red probe, using high and low range then, if necessary, repeat using the white probe.

c. Record reading and position of maximum leakage on survey form. If no leakage is found enter the result as "ZERO".

d. If an oven leaks above 10 mW/cm^2 due to dirty door seals, request the owner or operater to clean seals and then resurvey. Record only the "clean seal" results.

e. Owner should be referred to appropriate service center if leakage persists above 10 mW/cm^2.

Bureau of Radiological Health
DHEW,EHC,ECA

11/5/70

Table A

APPROVED MICROWAVE OVEN SURVEY PROCEDURES

NOTE: Manufacturers not listed do not have Approved Survey Procedures and should not be surveyed.

Mfgr. (and Model)	Door Opening Procedure	Comments
AMANA (RR1 & RR2)	Insert 3/4" shim between door and cabinet, opposite hinges. Avoid gasket. Interlock fails if oven remains on after pressing and releasing start button. Record radiation levels should this occur.	
GARLAND (Welbilt) also Husqvarna (EM1, EM2)	Perform "Jerk Test" since door latch activates interlock	Distribute HUSQVARNA
GENERAL ELECTRIC Models (856,895, 896 & 885)	Perform the "Jerk Test" to test the interlocks.	When surveying along the top of the door, readings may go as high as 30 mW/cm^2. In a high percentage of the ovens this high reading will be produced by a metal handle. Removal of the metal handle will produce a drop in the readings by a factor of 2 to 4. However, do not remove the handle under any circumstances. Removal is easy, replacement is very difficult. Only G.E. personnel have the equipment and the authority to do so. This does not apply to the sides or the bottom of the oven. Keep the probe out of that large crack between the bottom of the door and the body of the oven. Tell the owner, if he asks, that the metal handle interferes with the instrument.

HUSQVARNA (see Garland		
INTERNATIONAL CRYSTAL (MC-24, 115, Vendo)	Perform progressive shim test as described in "Survey Procedures." Place shims between door and cabinet, opposite the hinges, but NOT touching pressure plate.	Sometimes labeled Vendo
LITTON (500 & 550)	Place the special circular metallic shim (1/4") over the lower probe. The side of the shim with the cut-out portion fits against the door. This cut-out matches the base of the probe. Close the door, secure the latch (if possible) and activate the oven. If the oven comes on, note in the deficiencies column Interlock Maladjustment code 18) and monitor the oven according to Section B.1.	It has come to our attention that the Litton special shim will not fit on some older ovens because the base of the probe is larger than the cut in the shim. Should this be the case, tape the shim directly above the probe and perform the test.
LITTON (800 & 850)	Perform "Jerk Test" since door latch activates interlock.	
MAGIC CHEF (MC-75 & MC-75pb)	Tape the special 3/32" shim on the face of the oven, aligned with the edge of the oven cavity. The top of the shim should be in a straight line with the bottom of the striker latch assembly. This will cause the shim to be in contact with the pressure plate with the door closed. Please note that our restriction on interfering with the pressure plate (C.1.b.(1)) has been set aside. This shim causes a gap of 3/32" between the door and the pressure plate. Close the door until contact is felt between the door and the shim. Do not push hard, as the pressure plate will deform. Activate the oven. If the oven comes on, note in the "Deficiencies Noted" entry, that the interlocks were maladjusted (code 18) and monitor the oven according to Section B.1.	
McGRAW EDISON (see Sage)		

OMNIVEND (Victor Lynn Company) Models 110,110A,110AA,110AM, 110B,V110C,110D,110M,110BA, 110-400C,1000,1000ST,220)	Perform progressive shim test as described in "Survey Procedures."	Original Model 110 ovens have only one interlock, but some have been modified.
RAYTHRCN (Models 11661,Mark III, IV,V & VI	Perform progressive shim test as described in "Survey Procedures". Shims must be laid on surface (as counter top) below door. If progressive shim test proves impractical, perform "Jerk Test", estimate door open distance, and note "Jerk Test" on form.	
ROPER (also Sears) Models 992,994 & 995	Perform the "Jerk Test" as all have door latch activated interlocks	
SAGE (also Toastmaster and McGraw)	Perform progressive shim test as described in "Survey Procedures."	Model 3024 to be marketed as Model MC-110 "Mini-chef"
SEARS (see Roper)		
SHARP (Model R-5500)	Perform the door "Jerk Test." We previously asked for the shim test, but we found out that there was not enough room for the shims.	We have changed the test since our shims are too wide for this oven.
* TAPPAN (Models R1,R2,R3,R4,R4A, 56-1139,57-0014,57-1920,77-0015, 77-1399)	All ovens except the model 56-1139 receive the progressive shim test. Two sets of shims are to be used. For those ovens with bottom hinged doors, tape the shims horizontally along the top face of the oven, one at each corner where they will be in contact with the door. The left side hinged ovens will have the shims placed vertically along the right side, one in each corner. The 56-1139's will receive the "Jerk Test"	The 77-1399 is a "Free Standing" oven; the 57-1920 and the 77-0015 are double cell built-in ovens, and the 56-1139 is a countertop oven. All R-series ovens are single cell, built-in units. The 57-0014 is identical to the R4A. If leakage above 10 mW/cm^2 is detected, advise the owner to contact the local Tappan service agent.

Table A
Page 4. Approved Microwave Oven Survey Procedures

THERMADOR (Model MTR-11, MTR-12, MTR-24)	Perform the "Jerk Test"
THERMO-KINETICS	Perform the progressive shim test as described in the Microwave Oven Survey Procedures.
TOASTMASTER (See Sage)	
TOSHIBA (ER 602 B)	Perform progressive shim test. It will be necessary to tape shims along top edge of cooking cavity face.

Bureau of Radiological Health
DHEW,EHS,ECA

TABLE B

Shim Combinations for Various Door Open Distances

Desired Distance (inch)	Shims (inch)				
	1/16	1/8	1/4	1/2	3/4
1/16	X				
1/8		X			
3/16	X	X			
1/4			X		
5/16	X		X		
3/8		X	X		
7/16	X	X	X		
1/2				X	
9/16	X			X	
5/8		X		X	
11/16	X	X		X	
3/4					X
13/16	X				X
7/8		X			X
15/16	X	X			X

Desired Distance (inch)	Shims (inch)				
	1/16	1/8	1/4	1/2	3/4
1			X		X
1 1/16	X		X		X
1 1/8		X	X		X
1 3/16	X	X	X		X
1 1/4				X	X
1 5/16	X			X	X
1 3/8		X		X	X
1 7/16	X	X		X	X
1 1/2			X	X	X
1 9/16	X		X	X	X
1 5/8		X	X	X	X
1 11/16	X	X	X	X	X

DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
Environmental Control Administration

MICROWAVE OVEN SURVEY FORM

FORM APPROVED
Budget Bureau No. 85-R0130

DATE ____________________(1-4) **TEST NUMBER** ____________________ (5-10)

COUNTY______________(12-14)**CITY**____________(15-18)

INSTALLATION INFORMATION:

1. Name of Owner______________________________________Telephone______________
2. Address____
3. Person Interviewed____
4. Location of Oven____

EQUIPMENT INFORMATION: Card 1 (11)

1. Manufacturer_________________(19-20)
2. Model No.___________________(21-30)
3. Serial No.____ ______________(31-45)
4. Frequency_______________MHz(46-49)
5. Type:1____Portable 2____Fixed(50)
6. Main Usage: 1___Home 2___Canteen
   3___Eating Estab. 4___Retailer (51)
7. Date of Purchase________Mo/Yr(52-55)
8. Date Oven Was Last Serviced: (Mo/Yr)
   _______(56-59), by whom____________
   ____
9. Estimated Number of Minutes Operated Per Day____________________ (60-62)
10. Approximate Number of People in the Vicinity of Oven During Operation
    __________________________(63-65)
11. Is Warning Device Functioning Properly?
    1___Yes 2___No 3___No Device (66)
12. Is Oven Operable? (67)
    1___Yes 2___No: *If No, Explain:*
    ____
13. Type of Door___________________(68)
14. Type of Door Seal______________(69)
15. DEFICIENCIES NOTED:__________(70-71)
    (See Coding Sheet)
16. Total Ovens at Installation:
    No.________(74-75) of________(76-77)
17. Number Assigned Installation: (78-80)
    ____

Signature of
Surveyor_______________________________

Title__________________________________

MEASUREMENTS: Card 2 (11)

1. Load:____ml of H_2O Centered (19-21)
2. Instrument Used __________ (22-31)
3. Instrument No.____________ (32-41)
4. Date Calibrated____________(42-47
   Mo/Day/Year
5. Door Interlock Test:
   a. Distance from Oven_____(48-49)
   b. Reading____.___mW/cm^2 (50-55)
   c. Location of Readings: (56)
      0__All positions 1__2__3__
      4__5__6__7__8__9__
      See Oven Door Position Chart Below
   d. Do Interlocks work?
      1__Yes 2__No (57)
6. Maximum Leakage, door closed:
   a. Distance from Oven_____(58-59)
   b. Reading____.___mW/cm^2 (60-65)
   c. Location of Readings: (66)
      0__All positions 1__2__3__
      4__5__6__7__8__9__
      See Oven Door Position Chart Below
7. Did the Timer Cut Off the Power Supply? 1__Yes 2__No (67)

1	2	3
4	5	6
7	8	9

Chart for Oven
Door Positions

8. Type of Survey: 1__Initial
   2__Follow-up 3__Reinspection (68)

* **ALL MEASUREMENTS TAKEN ON FAST RESPONSE**

4/14/70

MICROWAVE OVEN SURVEY

CODING INFORMATION

GENERAL INSTRUCTIONS:

1. Unknown - Undetermined = X
2. Not Applicable = Y

SPECIFIC CODES:

Item & Item No.	Card Columns	Codes
Test No.	5-10	Columns 5-6: State Code as indicated in the IBM Reference Manual; Numerical Codes for States, Counties and Cities of U.S. Columns 7-10; Assigned No.
County	12-14	Same as above (IBM Ref. Manual)
City	15-18	Same as above: If a code has not been assigned in the Manual, leave blank, Edit Clerk will assign code.

SPECIFIC CODES FOR EQUIPMENT INFORMATION: (Card #1 - Column 11)

Item	Card Columns	Codes
1. Manufacturers	19-20	1 - Amana 2 - Garland - Welbilt 3 - General Electric 4 - Litton 5 - Magic Chef 6 - Omnivend 7 - Raytheon 8 - Tappan 9 - Toastmaster 10 - International Crystal 11 - Hotpoint 12 - Speed Range 13 - Hitachi 14 - Thermador 15 - Husqvarna 16 - Sage 17 - Roper 18 - Sears or Kenmore 19 - Thermo-Kinetic 20 - Toshiba 21 - Wards or Signature 22 - Westinghouse 50 - OTHER, (Specify)

Item	Card Columns	Code
6. Main Usage	51	Check One

DEFINITIONS:

1. Home - Where a housewife uses a microwave oven for her own family and receives no financial renumeration for her services as a cook.

2. Canteen - Where an employee or visitor to an organization may make use of a microwave oven, but the person who used the oven would not have as his major task, the operation of that oven. This area of classification would include snack bars, "do-it-yourself" cafeterias, etc.

3. Eating Establishment - A place where an employee has, as a major part of his duties, to prepare food. This would include hospitals, nursing homes, restaurants, and the like.

4. Retailer - A merchant who has in his possession microwave ovens that are to be sold. All demonstrators would come under this category.

Item	Card Columns	Code
9. Est. No. Minutes Operated per Day	60-62	999 = 999 minutes + Over
13. Type of Door	68	1 - Top Hinge 2 - Side Hinge 3 - Bottom Hinge 4 - Vertical (Slide) 5 - Horizontal (Slide) 6 - Other (Specify)
14. Type of Door Seal	69	1 - Choke 2 - Solid 3 - Metal Mesh 4 - Other
15. Deficiencies Noted	70-71	0 - None 1 - Hinges Worn 2 - Hinges Broken 3 - Hinges Jammed 4 - Door Seal Cracked or Pitted) 5 - Door Seal Covered with dirt or other matter 6 - Door Seal Loose or Misaligned

SPECIAL CODES FOR MEASUREMENTS SECTION: (Card #2 - Column 11)

Item		Card Columns	Codes
5.b.	Door Interlock Test:		
	Reading	50-55	As indicated: Note: Card Column 53 is reserved for the decimal point to be punched in card.
5.c.	Location of Reading	(56)	As indicated: Position "5" indicates screen leakage.
6.b.	Maximum Leakage:		
	Reading	60-65	As indicated: Note: Card Column 63 is reserved for the decimal point to be punched in card.
6.c.	Location of Reading	(66)	Same as 5c
8.	Type of Survey	(68)	

DEFINITIONS:

1. Initial - A first-time inspection of a microwave oven by the agency performing said survey.
2. Follow-up - A subsequent survey to specifically follow-up a repair program.
3. Reinspections - A resurvey done at some prescribed period of time.

Definitions and Additions of Terms on Survey Form

Installation Information:

1. Telephone - Telephone number of the owner.

2. Address - Address of the oven, not the owner.

4. Location of the oven - Give enough information to lead us directly to that particular, such as, building number, room number, floor, right or left oven, or third oven from the right.

Equipment Information:

5. Type:

Fixed - Refers to those ovens that are mounted or built-in and cannot be moved.

Portable - Refers to those ovens which are not bolted down and can be moved from its present location.

10. Approximate number of people in the Vicinity of Oven during operation:

Here we are interested in determining the number of people who would receive high levels of microwave emission from a faulty oven.

In a home, we would have to assume that the housewife and the children would be in proximity to the oven sometime during the day.

In an eating establishment, count those employees who would be close to the oven (the head cook would know). In a retail establishment, count only those employees who would demonstrate the oven.

In a canteen, count only those people who would work in the canteen area. The other employees would only be near the oven for a few seconds a day.

11. Warning Device:

A warning device is anything that gives an indication (visible or audible) of whether or not the oven is still operating.

15. Deficiencies Noted:

Out of the list, choose the one defect that in your mind contributes most to the high readings that were taken.

Measurements:

3. Instrument Number - Found on the bottom of the meter.

4. Date Calibrated - Can be found on the probe.

5a. Distance from oven - in inches.

6a. Distance from oven - in inches.

Place the size of the shim thicknesses next to the drawing of the microwave oven door. Area 5 on the drawing represents the screen.

APPENDIX F

A LISTING, BY MANUFACTURER, OF OVEN LEAKAGE WITH DOOR CLOSED AND DOOR OPEN FOR OVENS SURVEYED BY BRH

MICROWAVE OVEN SURVEY
MANUFACTURER - AMANA

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	NARDA MW/SQ.CM. DOORS CLOSED	SURVEY DATA SURVEY DATE	SURVEY DATA PURCH DATE	STATE	CONDITION CODE
190071	RR1	000.00	002.00	05/70	01/70	MD	NONE
190072	RR1	000.00	000.10	05/70	XX/69	MD	NONE
200112	RR1	000.00	000.05	05/70	06/68	MASS	NONE
200116	RR1	000.00	000.00	05/70	07/68	MASS	NONE
200117	RR1	000.00	000.00	05/70	12/68	MASS	NONE
200113	RR1	000.00	000.00	05/70	09/66	MASS	NONE
200156	RR1	000.00	000.00	05/70	09/68	MASS	NONE
200160	RR1	000.00	000.00	05/70	06/68	MASS	NONE
200163	RR1	000.00	000.50	05/70	06/68	MASS	NONE
200166	RR1	000.00	000.00	05/70	07/69	MASS	NONE
200183	RR1	000.00	000.20	05/70	05/68	MASS	NONE
200184	RR1	000.00	000.10	05/70	01/69	MASS	NONE
200188	RR1	000.00	000.20	05/70	03/69	MASS	NONE
200194	RR1	000.00	002.00	05/70	06/69	MASS	NONE
200195	RR1	000.00	000.00	05/70	05/68	MASS	NONE
200198	RR1	000.00	000.00	05/70	07/69	MASS	NONE
200202	RR1	000.00	003.00	05/70	06/68	MASS	NONE
200206	RR1	000.00	000.00	05/70	06/68	MASS	NONE
270008	RR1	000.00	001.50	05/70	09/68	NEV	NONE
010011	RR2	000.00	000.90	05/70	11/69	ALA	NONE
010014	RR2	000.00	000.30	05/70	05/69	ALA	NONE
010016	RR2	000.00	000.35	05/70	03/70	ALA	NONE
010017	RR2	000.00	001.50	05/70	03/69	ALA	NONE
010018	RR2	000.00	000.40	05/70	01/70	ALA	NONE
010021	RR2	000.00	000.10	05/70	01/70	ALA	NONE
010022	RR2	000.00	000.30	05/70	01/70	ALA	NONE
010023	RR2	000.00	000.30	05/70	03/70	ALA	NONE
010024	RR2	000.00	000.80	05/70	03/70	ALA	NONE
010025	RR2	000.00	000.25	05/70	10/69	ALA	NONE
010027	RR2	000.00	000.70	05/70	03/70	ALA	NONE
010028	RR2	000.00	000.60	05/70	05/69	ALA	NONE
080005	RR2	000.00	000.10	05/70	03/69	D C	NONE
080006	RR2	000.00	000.10	05/70	09/70	D C	NONE
080007	RR2	000.00	000.80	05/70	09/69	D C	NONE
080008	RR2	000.00	000.10	05/70	12/68	D C	NONE
080009	RR2	000.00	000.02	05/70	11/68	D C	NONE
080010	RR2	000.00	000.00	05/70	11/69	D C	NONE
080011	RR2	000.00	000.00	05/70	11/68	D C	SEAL DIRTY
080012	RR2	000.00	000.01	05/70	04/69	D C	SEAL LOOSE
080013	RR2	000.00	000.00	05/70	12/69	D C	NONE
080014	RR2	000.00	000.30	05/70	11/69	D C	NONE
080017	RR2	000.00	000.00	05/70	10/69	D C	NONE
160003	RR2	000.00	000.00	05/70	09/69	KY	NONE
160004	RR2	000.00	001.50	05/70	12/68	KY	NONE
160005	RR2	000.00	000.00	05/70	06/69	KY	NONE
160007	RR2	000.00	001.50	05/70	12/68	KY	NONE
160016	RR2	000.00	000.50	05/70	12/69	KY	NONE
160017	RR2	000.00	000.20	05/70	12/68	KY	NONE
190048	RR2	000.00	000.50	05/70	12/69	MD	NONE
190049	RR2	000.00	000.15	05/70	YY/YY	MD	NONE
190050	RR2	000.00	000.20	05/70	12/68	MD	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - AMANA

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
190053	RR2	000.00	000.30	05/70	02/69	MD	NONE
190054	RR2	000.00	000.30	05/70	XX/68	MD	NONE
190055	RR2	000.00	000.10	05/70	09/69	MD	NONE
190056	RR2	000.00	000.08	05/70	10/69	MD	NONE
190057	RR2	000.00	000.50	05/70	12/68	MD	NONE
190060	RR2	000.00	000.25	05/70	11/68	MD	NONE
190061	RR2	000.00	000.08	05/70	12/69	MD	NONE
190063	RR2	000.00	000.35	05/70	12/69	MD	NONE
190064	RR2	000.00	000.25	05/70	06/69	MD	NONE
190065	RR2	000.00	000.10	05/70	12/69	MD	NONE
190066	RR2	000.00	001.00	05/70	06/70	MD	NONE
190067	RR2	000.00	000.20	05/70	09/69	MD	NONE
190068	RR2	000.00	000.10	05/70	12/68	MD	NONE
190069	RR2	000.00	000.30	05/70	12/69	MD	NONE
190070	RR2	000.00	000.70	05/70	08/69	MD	NONE
190073	RR2	000.00	000.20	05/70	12/68	MD	NONE
190074	RR2	000.00	001.30	05/70	11/68	MD	NONE
200091	RR2	000.00	000.00	05/70	09/69	MASS	NONE
200093	RR2	000.00	000.50	05/70	09/69	MASS	NONE
200100	RR2	000.00	000.00	05/70	02/70	MASS	UNKNOWN
200119	RR2	000.00	000.00	05/70	07/69	MASS	NONE
200120	RR2	000.00	000.00	05/70	12/68	MASS	NONE
200121	RR2	000.00	000.00	05/70	08/68	MASS	NONE
200123	RR2	000.00	000.00	05/70	01/69	MASS	NONE
200125	RR2	000.00	001.00	05/70	12/69	MASS	NONE
200126	RR2	000.00	000.00	05/70	10/69	MASS	NONE
200131	RR2	000.00	000.00	05/70	08/68	MASS	NONE
200136	RR2	000.00	000.00	05/70	09/69	MASS	NONE
200137	RR2	000.00	000.00	05/70	04/69	MASS	NONE
200139	RR2	000.00	000.00	05/70	05/69	MASS	NONE
200141	RR2	000.00	000.00	05/70	12/69	MASS	NONE
200146	RR2	000.00	000.00	05/70	02/70	MASS	NONE
200148	RR2	000.00	000.00	05/70	11/69	MASS	NONE
200149	RR2	000.00	000.00	05/70	06/69	MASS	NONE
200150	RR2	000.00	000.00	05/70	11/70	MASS	NONE
200152	RR2	000.00	000.00	05/70	11/69	MASS	NONE
200155	RR2	000.00	000.00	05/70	12/68	MASS	NONE
200162	RR2	000.00	000.00	05/70	11/69	MASS	NONE
200170	RR2	000.00	000.00	05/70	05/69	MASS	NONE
200173	RR2	000.00	000.00	05/70	12/68	MASS	NONE
200174	RR2	000.00	000.00	05/70	05/69	MASS	NONE
200178	RR2	000.00	000.00	05/70	11/69	MASS	NONE
200180	RR2	000.00	000.10	05/70	06/69	MASS	NONE
200189	RR2	000.00	000.20	05/70	11/68	MASS	NONE
200191	RR2	000.00	000.10	05/70	09/69	MASS	NONE
200200	RR2	000.00	000.00	05/70	12/70	MASS	NONE
200240	RR2	000.00	000.00	05/70	12/68	MASS	NONE
200241	RR2	000.00	000.00	05/70	01/70	MASS	NONE
200242	RR2	000.00	000.00	05/70	06/69	MASS	NONE
270011	RR2	000.00	000.00	05/70	01/69	NEV	NONE
270012	RR2	000.00	000.50	05/70	05/69	NEV	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - AMANA

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
270015	RR2	000.00	000.00	05/70	07/69	NEV	NONE
270016	RR2	000.00	000.00	05/70	01/70	NEV	NONE
270017	RR2	000.00	001.50	05/70	12/68	NEV	NONE
270018	RR2	000.00	002.50	05/70	12/68	NEV	NONE
370004	RR2	000.00	000.00	05/70	12/69	PENN	NONE
370005	RR2	000.00	000.00	05/70	09/69	PENN	NONE
370006	RR2	000.00	000.00	05/70	12/69	PENN	NONE
370007	RR2	000.00	000.00	05/70	06/69	PENN	NONE
450001	RR2	000.00	000.05	05/70	12/69	VA	NONE
450002	RR2	000.00	000.00	05/70	12/69	VA	NONE
450003	RR2	000.00	001.50	05/70	11/68	VA	NONE
450004	RR2	000.00	000.10	05/70	12/69	VA	NONE
450005	RR2	000.00	000.50	05/70	12/68	VA	NONE
450008	RR2	000.00	001.50	05/70	12/69	VA	NONE

MANUFACTURER AMANA

MODEL RR1

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	19.	19.	19.	100.00	100.00	100.00
0.0	19.	9.	9.	100.00	47.37	47.37
0.1 TO 1.0	0.	6.	6.	0.0	31.58	31.58
1.1 TO 5.0	0.	4.	4.	0.0	21.05	21.05
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.51	0.0
VARIANCE	0.82	-0.0
STANDARD DEVIATION	0.90	0.0
RANGE,HIGHEST ENTRY	3.00	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MANUFACTURER AMANA

MODEL RR2

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	97.	97.	97.	100.00	100.00	100.00
0.0	97.	42.	42.	100.00	43.30	43.30
0.1 TO 1.0	0.	47.	47.	0.0	48.45	48.45
1.1 TO 5.0	0.	8.	8.	0.0	8.25	8.25
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.29	0.0
VARIANCE	0.22	-0.0
STANDARD DEVIATION	0.47	0.0
RANGE,HIGHEST ENTRY	2.50	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MICROWAVE OVEN SURVEY
MANUFACTURER - GARLAND

TEST NO.	MODEL NO.	NARDA MV/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
010091	EM-2	000.00	000.00	06/70	06/70	ALA	NONE
010175	EM2-15-H2	000.20	000.10	10/70	04/69	ALA	NONE
090157	EM2-15	002.50	001.50	08/70	03/70	FLA	NONE
090158	EMI F2	000.20	000.20	08/70	03/70	FLA	NONE
090159	EM2-15	000.20	000.20	08/70	03/70	FLA	NONE
120054	UNKNOWN	000.00	000.00	07/70	03/70	ILL	NONE
120055	UNKNOWN	001.00	001.00	07/70	03/70	ILL	NONE
200192	EM1	000.00	000.00	05/70	02/70	MASS	NONE
270023	EM2-C2	000.00	003.00	06/70	03/69	NEV	NONE
270025	EM2-C2	000.00	000.00	06/70	03/69	NEV	NONE
380109	EM2	000.00	000.00	05/70	02/70	R I	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - GE

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
210020	895Y	000.00	000.10	08/70	XX/65	MICH	NONE
210030	JE895Y1DC	000.00	000.00	07/70	03/65	MICH	NONE
210041	JE895Y1W11	000.00	000.50	08/70	01/67	MICH	NONE
210046	JE895Y1WH	000.00	000.20	08/70	XX/XX	MICH	NONE
210049	JE895Y1	000.00	000.10	08/70	08/64	MICH	NONE
210052	JE895Y1W	000.00	000.50	07/70	09/66	MICH	NONE
210057	JE895Y1	000.00	000.00	07/70	08/64	MICH	NONE
210059	JE895Y1WH	000.00	001.20	07/70	07/63	MICH	NONE
210063	JE885Y1BC	000.00	000.00	07/70	05/65	MICH	NONE
210072	JE895Y1WH	000.00	000.00	08/70	10/67	MICH	NONE
210075	JE895Y1WH	000.00	000.00	08/70	04/64	MICH	NONE
210078	JE895Y1DC	000.00	000.00	08/70	09/64	MICH	NONE
210082	JE895Y1DC	000.00	000.00	08/70	06/65	MICH	NONE
210083	JE895Y1DC	000.00	000.00	08/70	07/64	MICH	NONE
210084	JE895Y1DC	000.00	000.20	08/70	03/64	MICH	NONE
210085	JE885Y1WH	000.00	000.00	08/70	04/64	MICH	NONE
210086	JE895Y1WH	000.00	000.40	08/70	XX/64	MICH	NONE
210087	JE885Y1DC	000.00	000.00	08/70	08/64	MICH	NONE
210003	JE896D1	000.00	*017.75	07/70	11/68	MICH	NONE
210005	JE896D1	000.00	*009.00	07/70	05/69	MICH	NONE
210013	JE896D2	000.00	003.50	07/70	11/68	MICH	NONE
210022	JE896D1	000.00	004.00	08/70	10/68	MICH	NONE
210023	JE896D1	000.00	*009.10	08/70	09/68	MICH	NONE
210025	JE896D2	000.00	*007.06	08/70	09/68	MICH	NONE
210029	JE896D1WH	000.00	004.50	07/70	04/68	MICH	NONE
210031	JE896D1HT	000.00	003.50	07/70	10/68	MICH	NONE
210034	JE896D1AV	000.00	*010.40	07/70	01/70	MICH	BAFFLE MA
210039	JE896D1AV	000.00	*005.50	07/70	07/68	MICH	NONE
210043	JE896D2DC	000.00	004.00	08/70	09/68	MICH	NONE
210044	JE896D1AV	000.00	*009.00	08/70	10/68	MICH	NONE
210045	JE896D1AV	000.00	004.50	08/70	04/69	MICH	NONE
210051	JE896D1	000.00	001.50	07/70	12/68	MICH	NONE
210058	JE896D2AV	000.00	004.00	07/70	01/68	MICH	NONE
210060	JE896D1HT	000.00	*006.00	07/70	01/70	MICH	NONE
210061	JE896D1DC	000.00	*008.00	07/70	10/68	MICH	NONE
210064	JE896D2DC	000.00	*006.50	07/70	11/68	MICH	NONE
210067	JE896D2WHO	000.00	004.00	07/70	07/69	MICH	NONE
210069	JE896D2AV	000.00	*007.50	07/70	03/68	MICH	NONE
210070	JE896D1WH	000.00	003.50	08/70	05/68	MICH	NONE
210071	JE896D1AV	000.00	*011.40	08/70	01/69	MICH	SEAL LOOSE
210073	JE896D1WH	000.00	002.30	08/70	08/69	MICH	NONE
210079	JE896D2DC	000.00	*007.20	08/70	10/68	MICH	NONE
210083	JE896D1HT	000.00	*009.50	08/70	XX/68	MICH	NONE
210024	UNKNOWN	000.00	*013.80	08/70	01/69	MICH	NONE
210081	JE896E1WH	000.00	003.20	08/70	XX/XX	MICH	NONE
210001	896E1	000.00	005.00	07/70	10/69	MICH	NONE
210002	J896E1	000.00	001.50	07/70	XX/69	MICH	NONE
210004	JE896E1	000.00	*009.00	07/70	10/69	MICH	NONE
210006	JE896E1	000.00	*007.40	07/70	05/69	MICH	NONE
210007	JE896E1	000.00	004.00	07/70	12/69	MICH	NONE
210008	JE896E1	000.00	*006.53	07/70	XX/XX	MICH	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - GE

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
210009	JE896E1	000.00	005.00	07/70	11/69	MICH	NONE
210010	JE896E1	000.00	005.00	07/70	08/69	MICH	NONE
210011	JE896E1	000.00	003.00	07/70	08/69	MICH	NONE
210012	896E1	000.00	004.00	07/70	12/69	MICH	NONE
210014	JE896E1	000.00	003.00	07/70	08/69	MICH	NONE
210015	JE856E1	000.00	003.20	08/70	08/69	MICH	NONE
210016	JE856E1	000.00	*008.89	08/70	XX/69	MICH	NONE
210017	JE896E1	000.00	002.50	08/70	07/69	MICH	NONE
210018	JE896E1	000.00	001.50	08/70	XX/XX	MICH	NONE
210019	JE896E1	000.00	003.00	08/70	05/69	MICH	NONE
210021	JE896E1	000.00	*009.30	08/70	07/69	MICH	NONE
210026	J4856E1 AV	000.00	002.00	07/70	11/69	MICH	NONE
210027	JE896E1AV	000.00	002.00	07/70	07/69	MICH	NONE
210028	JE896E1HT	000.00	000.00	07/70	02/70	MICH	NONE
210032	JE856E1AV	000.00	*008.00	07/70	10/69	MICH	NONE
210033	JE896E1WH	000.00	*012.00	07/70	08/69	MICH	DOOR MSLN
210035	JE896E1WH	000.00	002.20	07/70	01/69	MICH	NONE
210036	JE896E1AV	000.00	*008.50	07/70	01/69	MICH	NONE
210037	JE896E1HT	000.00	*008.39	07/70	03/70	MICH	NONE
210038	JE856E1WH	000.00	005.00	07/70	12/69	MICH	NONE
210040	JE856E1HT	000.00	*015.10	07/70	09/69	MICH	UNKNOWN
210042	JE896E1DC	000.00	*007.20	08/70	11/69	MICH	UNKNOWN
210047	JE896E1DC	000.00	*007.30	08/70	09/69	MICH	NONE
210048	JE856E1AV	000.00	*009.90	08/70	11/69	MICH	NONE
210050	JE856F	000.00	003.00	07/70	01/70	MICH	NONE
210053	JE896E1	000.00	*005.70	07/70	05/69	MICH	NONE
210054	JE896E1	000.00	001.00	07/70	07/69	MICH	NONE
210055	JE896E1	000.00	*011.50	08/70	10/69	MICH	UNKNOWN
210056	JE896E1 WH	000.00	*005.60	07/70	10/69	MICH	NONE
210062	JE856E1AV	000.00	002.30	07/70	08/69	MICH	NONE
210065	JE896E1DC	000.00	003.30	07/70	07/69	MICH	NONE
210066	JE896E1AV	000.00	003.20	07/70	04/69	MICH	NONE
210068	JE896E1WH	000.00	*009.00	07/70	XX/XX	MICH	NONE
210074	JE896E1W8	000.00	000.50	08/70	06/69	MICH	NONE
210076	JE856E1HT	000.00	003.00	08/70	07/69	MICH	NONE
210077	JE856E1AV	000.00	*007.00	08/70	03/70	MICH	NONE
210080	JE896E1HT	000.00	001.30	08/70	06/69	MICH	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - GE

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
120901	MW01C	000.00	000.10	11/70	06/65	ILL	NONE
120902	MW01C	000.00	000.02	12/70	/	ILL	NONE
120903	MW01	000.00	000.05	12/70	10/69	ILL	NONE
120904	MW01C	000.00	000.01	12/70	12/67	ILL	NONE
120905	MW01C	000.00	000.05	12/70	12/70	ILL	NONE
120906	MW01C	000.00	000.03	12/70	06/66	ILL	NONE
120907	MW01C	000.00	000.08	12/70	11/70	ILL	NONE
120908	MW01C	000.00	000.01	12/70	11/67	ILL	NONE
120909	MW01C	000.00	000.00	12/70	06/65	ILL	NONE
120910	MW01C	000.00	000.10	12/70	06/66	ILL	NONE

MANUFACTURER G.E.

MODEL PRE-VERSATRONIC

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	17.	17.	17.	100.00	100.00	100.00
0.0	17.	9.	9.	100.00	52.94	52.94
0.1 TO 1.0	0.	7.	7.	0.0	41.18	41.18
1.1 TO 5.0	0.	1.	1.	0.0	5.88	5.88
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.19	0.0
VARIANCE	0.10	-0.0
STANDARD DEVIATION	0.32	0.0
RANGE,HIGHEST ENTRY	1.20	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT) .	0.0	0.0

MANUFACTURER G.E.

MODEL EARLY VERSATRONIC

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	27.	27.	27.	100.00	100.00	100.00
0.0	27.	1.	1.	100.00	3.70	3.70
0.1 TO 1.0	0.	0.	0.	0.0	0.0	0.0
1.1 TO 5.0	0.	11.	11.	0.0	40.74	40.74
5.1 TO 10.0	0.	11.	11.	0.0	40.74	40.74
10.1 TO 20.0	0.	4.	4.	0.0	14.81	14.81
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	6.56	0.0
VARIANCE	15.29	-0.0
STANDARD DEVIATION	3.91	0.0
RANGE,HIGHEST ENTRY	17.75	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	4.00	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	14.81	0.0

MANUFACTURER G.E.

MODEL LATE VERSATRONIC

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	44.	44.	44.	100.00	100.00	100.00
0.0	44.	1.	1.	100.00	2.27	2.27
0.1 TO 1.0	0.	2.	2.	0.0	4.55	4.55
1.1 TO 5.0	0.	23.	23.	0.0	52.27	52.27
5.1 TO 10.0	0.	15.	15.	0.0	34.09	34.09
10.1 TO 20.0	0.	3.	3.	0.0	6.82	6.82
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	5.20	0.0
VARIANCE	11.87	-0.0
STANDARD DEVIATION	3.44	0.0
RANGE,HIGHEST ENTRY	15.10	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	3.00	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	6.82	0.0

MICROWAVE OVEN SURVEY
MANUFACTURER - HOTPOINT

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
160050	RE45	000.00	000.20	12/70	XX/59	KY	NONE
010186	10RE-45A	000.00	000.00	12/70	06/64	ALA	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - INTERNAT

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
010003	115	*006.00	000.00	05/70	05/69	ALA	NONE
010004	115	004.50	000.30	05/70	05/69	ALA	NONE
010005	115	*014.00	000.00	05/70	04/69	ALA	INTERLK MAL
010006	115	*080.00	000.00	05/70	04/69	ALA	INTERLK MAL
010069	SOLAR115	000.00	000.00	06/70	05/70	ALA	NONE
010070	SOLAR115	000.00	000.00	06/70	05/70	ALA	NONE
010081	SOLAR115	*075.00	000.00	06/70	XX/XX	ALA	INTERLK MAL
010082	SOLAR115	000.00	000.00	06/70	04/70	ALA	NONE
010083	SOLAR115	003.00	000.00	06/70	11/69	ALA	NONE
010084	SOLAR115	*030.00	000.00	06/70	08/69	ALA	INTERLK MAL
010085	SOLAR115	000.00	000.00	06/70	07/69	ALA	NONE
010086	SOLAR115	000.00	000.00	06/70	07/69	ALA	NONE
010087	SOLAR115	*050.00	000.00	06/70	10/69	ALA	INTERLK MAL
010092	SOLAR115	*050.00	000.00	06/70	06/68	ALA	INTERLK MAL
010093	SOLAR115	*200.00	000.00	06/70	05/69	ALA	INTERLOCK
010096	SOLAR115 B	001.00	000.00	07/70	05/70	ALA	NONE
010097	SOLAR115	*200.00	000.00	07/70	03/69	ALA	INTERLOCK
010098	SOLAR115	000.00	000.00	07/70	05/70	ALA	NONE
010099	SOLAR115	*040.00	000.00	07/70	03/69	ALA	INTERLK MAL
010100	SOLAR115	005.00	000.50	07/70	01/69	ALA	NONE
016034	SOLARRANGE	*012.00	000.00	06/70	07/69	ALA	NONE
030085	SOLAR115	*020.00	000.00	06/70	11/69	ARK	INTERLK MAL
030086	SOLAR115	000.00	000.00	06/70	01/70	ARK	NONE
030087	SOLAR115	002.00	000.00	06/70	02/70	ARK	NONE
030088	SOLAR115	002.00	000.00	06/70	02/70	ARK	NONE
120013	SOLAR115	000.00	000.30	06/70	09/69	ILL	NONE
130500	115	000.00	001.00	06/70	XX/XX	IND	NONE
130501	SOLAR115	000.00	000.00	06/70	10/69	IND	NONE
160032	115	000.20	000.20	06/70	03/70	KY	NONE
160033	115	000.40	000.20	06/70	12/69	KY	NONE
160034	115	*012.00	000.00	06/70	07/69	KY	NONE
160037	SOLARANGE	000.00	000.00	07/70	03/70	KY	NONE
160038	SOLARANGE	*040.00	000.00	07/70	XX/68	KY	INTERLK MAL
190135	115	000.60	000.10	06/70	08/70	MD	NONE
190136	115	*080.00	001.00	06/70	07/69	MD	INTERLK MAL
190137	115	*200.00	001.00	06/70	07/69	MD	NONE
190139	115	000.50	000.50	06/70	XX/XX	MD	NONE
270036	SOLAR 115	*060.00	000.00	05/70	XX/XX	NEV	INTERLOCK
370015	SOLAR 115	000.00	000.00	05/70	XX/XX	PENN	NONE
370051	SOLARANGE	000.00	000.00	06/70	01/70	PENN	NONE
370052	115	000.00	000.00	06/70	01/70	PENN	NONE
370053	115	000.00	000.00	06/70	01/70	PENN	NONE
370054	115	000.00	000.00	06/70	01/70	PENN	NONE
380094	VENDO	000.00	001.00	05/70	06/69	R I	NONE
010026	MC24	002.00	000.00	05/70	09/68	ALA	NONE
010059	MC24	000.60	000.00	06/70	12/67	ALA	NONE
120008	19C010SD	*017.50	000.50	06/70	12/69	ILL	INTERLK MAL
120012	19C01012C	000.00	000.00	06/70	05/70	ILL	NONE
160028	MC240	*200.00	000.50	06/70	05/69	KY	INTERLK MAL
160029	MC240	004.50	000.00	05/70	06/69	KY	NONE
160030	MC240	*011.00	000.00	06/70	05/69	KY	INTERLK MAL

MICROWAVE OVEN SURVEY
MANUFACTURER - INTERNAT

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
190059	MC24	*008.00	000.25	05/70	01/69	MD	NONE
190089	MC24	*050.00	005.00	06/70	12/68	MD	SEAL LOOSE
280031	XXXXXXX	000.00	000.00	06/70	XX/XX	N H	NONE

MANUFACTURER INT. CRYSTAL

MODEL 115

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	44.	44.	44.	100.00	100.00	100.00
0.0	17.	33.	14.	38.64	75.00	31.82
0.1 TO 1.0	5.	11.	8.	11.36	25.00	18.18
1.1 TO 5.0	5.	0.	5.	11.36	0.0	11.36
5.1 TO 10.0	1.	0.	1.	2.27	0.0	2.27
10.1 TO 20.0	4.	0.	4.	9.09	0.0	9.09
20.1 TO 30.0	1.	0.	1.	2.27	0.0	2.27
30.1 TO 40.0	2.	0.	2.	4.55	0.0	4.55
40.1 TO 199.9	6.	0.	6.	13.64	0.0	13.64
200 AND OVER	3.	0.	3.	6.82	0.0	6.82

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.14	27.00
VARIANCE	0.09	2791.21
STANDARD DEVIATION	0.30	52.83
RANGE,HIGHEST ENTRY	1.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	16.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	36.36

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
010103	500.017	000.00	000.80	08/70	04/70	ALA	NONE
010106	500.015BJ	*015.00	*008.00	08/70	05/68	ALA	INTERLK MAL
010108	500.017	001.00	000.50	08/70	02/70	ALA	NONE
010110	500.015DJ	000.00	004.00	08/70	05/68	ALA	NONE
010111	500.015EJ	000.00	*015.00	08/70	05/68	ALA	LATCH BRKN
010115	500	000.00	000.00	08/70	04/68	ALA	SEAL LOOSE
010121	500.015GH	000.00	003.00	08/70	02/70	ALA	INTERLK MAL
010124	500.	*030.00	001.00	08/70	02/70	ALA	INTERLK MAL
010125	500.105	*010.00	*007.50	08/70	XX/XX	ALA	INTERLK MAL
010135	500.017	000.00	*125.00	09/70	09/69	ALA	SEAL LOOSE
010136	500.017	000.00	000.10	09/70	04/70	ALA	UNKNOWN
010139	500.017	000.00	000.50	09/70	09/69	ALA	NONE
010145	500	000.00	000.75	09/70	XX/XX	ALA	NONE
010163	500017	000.00	000.70	09/70	03/69	ALA	NONE
030108	0000000500	*015.00	*008.00	08/70	XX/68	ARK	INTERLK MAL
030110	0000000500	*010.00	000.80	08/70	02/70	ARK	INTERLK MAL
030111	0000000500	002.00	001.50	08/70	09/69	ARK	INTERLK MAL
030112	0000000500	000.00	004.00	08/70	XX/69	ARK	NONE
030115	0000000500	000.00	000.00	08/70	09/68	ARK	NONE
030116	0000000500	000.00	000.00	08/70	09/68	ARK	NONE
030121	0000000500	000.00	000.00	08/70	10/69	ARK	NONE
030122	0000000500	*020.00	001.00	08/70	XX/XX	ARK	INTERLK MAL
030123	0000000500	000.00	000.60	08/70	XX/66	ARK	NONE
030125	0000000500	004.00	000.00	08/70	XX/XX	ARK	INTERLK MAL
030126	0000000500	002.00	001.50	08/70	10/69	ARK	INTERLK MAL
030127	0000000500	000.00	000.40	08/70	XX/XX	ARK	NONE
030129	0000000500	*040.00	*040.00	08/70	XX/XX	ARK	SHIELD
030138	0000000500	000.00	*025.00	08/70	12/67	ARK	NONE
030139	0000000500	000.00	*010.00	08/70	04/68	ARK	SEAL DIRTY
030142	0000000500	000.00	000.00	09/70	04/70	ARK	NONE
030143	0000000500	000.00	000.00	09/70	12/66	ARK	NONE
030144	0000000500	000.00	*014.00	09/70	07/69	ARK	NONE
030145	0000000500	000.00	000.00	09/70	02/69	ARK	NONE
030146	500	000.00	002.00	09/70	10/69	ARK	NONE
030147	500	000.00	000.00	09/70	03/69	ARK	NONE
080034	500	*060.00	*007.00	06/70	XX/XX	D C	SEAL CRACKD
090163	500.015AJ	000.00	002.30	08/70	02/67	FLA	NONE
090171	500.017	003.00	002.00	08/70	02/70	FLA	SCREEN
090172	500.017	003.00	002.00	08/70	01/70	FLA	SCREEN
090178	500.015	*010.00	*010.00	08/70	XX/XX	FLA	NONE
090179	500.017	*050.00	*010.00	08/70	XX/XX	FLA	DOOR MSLN
090182	500.015	*150.00	005.00	08/70	01/68	FLA	INTERLK MAL
090183	500.017	*030.00	*025.00	09/70	XX/XX	FLA	NONE
090187	500.017	001.50	000.50	09/70	06/70	FLA	NONE
090189	500017	000.00	002.00	09/70	04/68	FLA	NONE
120011	500	*100.00	001.00	06/70	XX/XX	ILL	NONE
120063	500015 FH	000.00	*007.00	08/70	08/67	ILL	NONE
120064	500015 KH	*100.00	*025.00	08/70	10/67	ILL	SEAL DIRTY
120065	500015 BJ	*150.00	*160.00	08/70	03/68	ILL	INTERLOCK
120067	500015 KH	000.00	*020.00	08/70	XX/XX	ILL	SEAL DIRTY
120082	500	000.00	*014.00	08/70	XX/XX	ILL	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
120083	500	000.00	*012.00	08/70	XX/XX	ILL	LATCH BRKN
120087	500	000.00	001.00	08/70	XX/XX	ILL	NONE
120089	500.017	000.00	001.00	08/70	XX/XX	ILL	NONE
120090	500.015CJ	000.00	*015.00	08/70	XX/XX	ILL	SEAL LOOSE
120091	500.017	000.00	002.00	08/70	XX/XX	ILL	NONE
120093	500	000.00	*040.00	08/70	XX/XX	ILL	NONE
120097	500	000.00	003.00	08/70	XX/XX	ILL	NONE
120103	500	000.00	*015.00	08/70	XX/XX	ILL	NONE
120104	500	000.00	001.00	08/70	XX/XX	ILL	NONE
120105	500.015JH	000.00	000.50	08/70	XX/XX	ILL	NONE
120106	500	000.00	000.10	08/70	XX/XX	ILL	HINGES WORN
120107	500	000.00	001.00	08/70	XX/XX	ILL	NONE
120108	500.017	000.00	002.00	08/70	XX/XX	ILL	LATCH BRKN
120109	500	000.00	000.00	08/70	XX/XX	ILL	NONE
120110	500	000.00	003.00	08/70	XX/XX	ILL	NONE
120111	500.017	000.00	000.10	08/70	XX/XX	ILL	NONE
120112	500.017	002.00	000.50	08/70	08/69	ILL	INTERLK MAL
120113	500.017	000.00	002.00	08/70	08/69	ILL	NONE
120115	500	*015.00	*011.00	09/70	XX/XX	ILL	INTERLK MAL
120800	500015	000.00	003.50	08/70	XX/XX	ILL	NONE
120804	500015 HH	000.00	*030.00	08/70	XX/XX	ILL	UNKNOWN
200288	500	*010.00	*009.00	08/70	XX/XX	MASS	HINGES WORN
200294	500	000.00	000.10	08/70	07/70	MASS	NONE
200299	500	*050.00	*020.00	08/70	XX/XX	MASS	INTERLK MAL
200310	500	000.00	004.00	08/70	XX/66	MASS	SEAL CRACKD
200312	500	000.00	000.00	09/70	XX/XX	MASS	NONE
200313	500	000.00	001.10	09/70	XX/XX	MASS	NONE
200314	500	000.00	004.00	09/70	XX/XX	MASS	NONE
200317	500	005.00	*007.50	09/70	04/67	MASS	HINGES WORN
200318	500	000.00	*030.00	09/70	09/67	MASS	SEAL LOOSE
200323	500017	000.00	001.00	09/70	10/70	MASS	NONE
270029	500-015-BJ	*030.00	*030.00	08/70	07/67	NEV	SEAL LOOSE
270030	500-15-BJ	000.00	004.00	08/70	XX/67	NEV	SEAL LOOSE
270031	500-017	000.00	000.50	08/70	06/69	NEV	NONE
270032	500-017	000.00	000.50	08/70	09/69	NEV	NONE
270033	500-017	000.00	001.00	08/70	09/69	NEV	NONE
370132	500	*035.00	*035.00	08/70	06/68	PENN	SEAL LOOSE
370134	500	001.00	000.00	08/70	03/70	PENN	NONE
370137	500	000.00	000.00	08/70	06/69	PENN	NONE
370138	500	000.00	000.00	08/70	01/70	PENN	NONE
370140	500	000.00	000.50	08/70	06/68	PENN	NONE
370141	500	000.00	000.00	08/70	06/68	PENN	NONE
460002	500	*020.00	*018.00	09/70	XX/XX	WASH	INTERLK MAL
460004	500	000.00	000.00	09/70	XX/XX	WASH	NONE
460005	500	000.00	000.00	09/70	XX/XX	WASH	NONE
460006	500	000.00	000.50	09/70	XX/XX	WASH	NONE
460901	500	000.00	001.00	09/70	YY/YY	WASH	NONE
460902	500	*015.00	*021.00	09/70	YY/YY	WASH	INTERLK MAL
460903	500	000.00	000.00	09/70	YY/YY	WASH	NONE
460905	500	000.00	001.00	09/70	07/69	WASH	NONE
460906	500	000.00	003.00	09/70	01/70	WASH	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
460907	500	000.00	000.00	09/70	02/70	WASH	NONE
480020	500	000.00	001.50	08/70	XX/XX	WIS	NONE
480021	500	000.00	*050.00	08/70	XX/XX	WIS	HINGES BRKN
480022	500	000.00	002.00	08/70	XX/XX	WIS	NONE
291000	500	001.00	000.50	10/70	XX/66	N J	INTERLK MAL
291010	500	*012.00	003.00	10/70	XX/XX	N J	INTERLK MAL
291011	500	*150.00	*007.00	10/70	XX/XX	N J	SEAL CRACKD
291014	500	*200.00	000.50	10/70	XX/XX	N J	INTERLK MAL
371000	500	000.00	003.00	10/70	XX/66	PENN	NONE
371001	500	000.00	000.50	10/70	XX/69	PENN	NONE
371002	500	000.00	000.50	10/70	06/66	PENN	NONE
371003	500.015	*007.00	002.50	10/70	01/69	PENN	INTERLK MAL
371004	500.015	*030.00	001.00	10/70	09/70	PENN	INTERLK MAL
371005	500.015	000.00	001.00	10/70	06/67	PENN	NONE
371006	500	*006.00	000.50	10/70	06/68	PENN	INTERLK MAL
371007	500.017	000.00	000.50	10/70	09/68	PENN	NONE
371008	500	000.00	000.50	10/70	06/66	PENN	NONE
371009	500	000.00	001.00	10/70	XX/65	PENN	NONE
371010	500.5	*006.00	004.00	10/70	06/65	PENN	INTERLK MAL
371011	500	000.00	000.80	10/70	06/67	PENN	NONE
371012	500.015	004.00	001.50	10/70	06/69	PENN	INTERLK MAL
371013	500.017	000.00	002.00	10/70	06/69	PENN	NONE
371014	500	000.00	*025.00	10/70	06/67	PENN	STIRRERS
371015	500.015	000.00	*006.00	10/70	06/67	PENN	NONE
371016	500.017	000.00	000.50	10/70	06/67	PENN	NONE
371017	500.017	000.00	*014.00	10/70	01/68	PENN	NONE
371018	500.017	000.00	000.50	10/70	01/68	PENN	NONE
371019	500	000.00	001.50	10/70	08/67	PENN	NONE
371020	500	*045.00	001.00	10/70	08/66	PENN	INTERLK MAL
371021	500	000.00	003.00	10/70	08/66	PENN	NONE
371022	500.015	000.00	002.00	10/70	06/67	PENN	NONE
371023	500	000.00	000.50	10/70	06/67	PENN	NONE
371025	500	004.00	000.70	10/70	09/67	PENN	INTERLK MAL
371026	500	000.00	000.10	10/70	09/67	PENN	NONE
371043	500	000.00	001.00	10/70	XX/XX	PENN	NONE
371044	500	000.00	000.00	10/70	/	PENN	NONE
371045	500	000.00	*007.00	10/70	XX/66	PENN	NONE
371046	500	000.00	000.30	10/70	XX/67	PENN	NONE
371047	500	000.00	000.70	10/70	XX/70	PENN	NONE
371048	500	000.00	000.20	10/70	XX/70	PENN	NONE
371049	500	000.00	*007.00	10/70	XX/67	PENN	NONE
371050	500	000.00	*009.00	10/70	XX/67	PENN	UNKNOWN
371051	500	000.00	003.00	10/70	XX/67	PENN	NONE
371062	500.015	000.00	*017.00	10/70	07/68	PENN	NONE
371063	500.017	000.00	000.50	10/70	07/68	PENN	NONE
371065	500.017	000.00	000.60	10/70	07/68	PENN	NONE
371066	500.017	000.00	000.50	10/70	08/70	PENN	NONE
371071	500.017	000.00	000.10	10/70	07/70	PENN	NONE
371072	500.017	000.00	000.40	10/70	07/70	PENN	NONE
371079	500.017	000.50	000.20	10/70	XX/XX	PENN	NONE
371080	500.017	000.00	000.50	10/70	XX/XX	PENN	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
371081	500.017	000.00	000.20	10/70	XX/XX	PENN	NONE
371082	500.017	*150.00	000.10	10/70	XX/XX	PENN	INTERLK MAL
371083	500.015FJ	*010.00	001.00	10/70	05/68	PENN	INTERLK MAL
371084	500.017	000.00	001.00	10/70	01/70	PENN	UNKNOWN
371085	500.017	000.00	000.30	10/70	01/70	PENN	UNKNOWN
371086	500.017	003.00	000.20	10/70	XX/XX	PENN	UNKNOWN
371087	500.017	003.00	003.00	10/70	XX/XX	PENN	UNKNOWN
371088	500.017	000.00	000.10	10/70	XX/XX	PENN	UNKNOWN
371089	500.015	000.00	000.20	10/70	XX/XX	PENN	UNKNOWN
010104	550	000.00	005.00	08/70	03/67	ALA	NONE
010105	550	000.00	002.50	08/70	05/68	ALA	SEAL CRACKD
010107	550.017	*015.00	002.00	08/70	06/69	ALA	INTERLK MAL
010109	550.017	*010.00	*020.00	08/70	02/69	ALA	STIRRERS
010112	550.015EJ	*100.00	*050.00	08/70	08/67	ALA	INTERLK MAL
010113	550.017	000.00	005.00	08/70	11/69	ALA	NONE
010114	550.017	*020.00	002.50	08/70	11/69	ALA	INTERLK MAL
010116	550.017	000.00	000.50	08/70	06/70	ALA	NONE
010117	550.017	000.00	000.50	08/70	06/70	ALA	NONE
010118	550.	000.00	*050.00	08/70	09/68	ALA	HINGES WORN
010119	550.8	000.00	001.50	08/70	06/68	ALA	SEAL DIRTY
010126	550.017	000.00	001.00	08/70	06/69	ALA	NONE
010127	550.017	005.00	004.50	08/70	07/69	ALA	INTERLK MAL
010128	550.017	*050.00	000.50	08/70	09/69	ALA	INTERLK MAL
010129	550.015	002.50	000.50	08/70	01/69	ALA	INTERLK MAL
010130	550.017	*020.00	005.00	08/70	02/70	ALA	INTERLK MAL
010131	550.017	001.50	000.50	08/70	03/70	ALA	INTERLK MAL
010132	550.017	000.00	000.30	08/70	05/69	ALA	UNKNOWN
010133	550.017	001.50	002.50	08/70	02/70	ALA	INTERLK MAL
010134	550	000.00	*005.50	09/70	08/68	ALA	SEAL CRACKD
010137	550.015	000.00	*150.00	09/70	02/68	ALA	SEAL LOOSE
010138	550	000.00	*015.00	09/70	XX/XX	ALA	HINGES WORN
010140	550.017	000.00	000.30	09/70	06/70	ALA	UNKNOWN
010141	550	000.00	*015.00	09/70	XX/XX	ALA	HINGES WORN
010143	550017	000.00	000.40	09/70	06/70	ALA	NONE
010152	550	000.00	000.00	09/70	06/70	ALA	NONE
010153	550	*005.50	001.00	09/70	06/70	ALA	INTERLK MAL
010154	550	000.00	000.50	09/70	04/70	ALA	NONE
010155	550	000.00	000.30	09/70	04/70	ALA	NONE
010156	550	000.00	001.50	09/70	05/70	ALA	NONE
010157	550	000.00	002.00	09/70	08/70	ALA	NONE
010159	550	000.00	003.00	09/70	05/70	ALA	NONE
010160	550	000.00	000.50	09/70	05/70	ALA	NONE
010161	550	000.00	001.00	09/70	09/70	ALA	NONE
010162	550	000.00	004.00	09/70	09/70	ALA	NONE
010164	550	*015.00	*020.00	09/70	09/67	ALA	INTERLK MAL
010165	550	000.00	000.50	09/70	06/70	ALA	NONE
010166	550	000.00	000.10	09/70	06/70	ALA	NONE
010167	550	000.00	001.00	09/70	06/70	ALA	NONE
030133	0000000550	000.00	005.00	08/70	11/68	ARK	NONE
030134	0000000550	000.00	*009.00	08/70	11/68	ARK	SEAL DIRTY
030135	0000000550	000.00	002.00	08/70	11/68	ARK	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
030141	0000550000	004.00	001.50	08/70	11/69	ARK	INTERLK MAL
040038	550-018	000.75	000.00	08/70	05/70	CAL	INTERLK MAL
040039	550-018	001.00	001.00	08/70	05/70	CAL	INTERLK MAL
040040	550	000.00	005.00	08/70	05/69	CAL	NONE
090160	550.017	005.00	004.00	08/70	01/70	FLA	INTERLK MAL
090169	550 AS	000.00	001.00	08/70	XX/XX	FLA	NONE
090184	550	*050.00	002.00	09/70	01/65	FLA	INTERLK MAL
090188	550.017	000.00	001.50	09/70	06/70	FLA	NONE
120062	550017	000.00	000.00	08/70	02/69	ILL	NONE
120098	550.017	000.00	000.50	08/70	05/70	ILL	NONE
120099	550.017	000.00	001.00	08/70	05/70	ILL	NONE
120102	550.017	000.50	000.50	08/70	02/70	ILL	INTERLK MAL
120123	550	005.00	000.50	09/70	11/69	ILL	NONE
200291	550	001.50	001.50	08/70	XX/XX	MASS	INTERLK MAL
200292	550	001.50	001.00	08/70	XX/XX	MASS	INTERLK MAL
200295	550	000.00	000.50	08/70	06/70	MASS	NONE
200296	550	000.00	000.20	08/70	06/70	MASS	NONE
200297	550	000.00	001.00	08/70	05/70	MASS	NONE
200298	550	000000	*100.50	08/70	05/70	MASS	NONE
200300	550	000.00	*100.00	08/70	XX/XX	MASS	SEAL LOOSE
200301	550	002.00	000.50	08/70	12/69	MASS	INTERLK MAL
200302	550	000.00	000.50	08/70	12/69	MASS	NONE
200303	550	000.00	001.50	08/70	11/69	MASS	NONE
200304	550	000.00	000.50	08/70	04/70	MASS	NONE
200305	550	004.00	002.00	08/70	04/70	MASS	INTERLK MAL
200306	550	000.00	000.10	08/70	XX/70	MASS	NONE
200307	550	*013.00	*013.00	08/70	XX/XX	MASS	INTERLK MAL
200308	550	001.00	000.30	08/70	XX/67	MASS	INTERLK MAL
200309	550	005.00	001.00	08/70	08/69	MASS	INTERLK MAL
200311	550	000.00	001.50	08/70	XX/XX	MASS	NONE
200316	550	*030.00	*060.00	09/70	04/67	MASS	INTERLK MAL
200282	550	000.00	001.00	08/70	01/70	MASS	NONE
200283	550	*025.00	002.00	08/70	08/69	MASS	INTERLK MAL
200284	550	*009.00	001.00	08/70	08/68	MASS	INTERLK MAL
200285	550	000.00	001.00	08/70	XX/XX	MASS	LATCH BRKN
200286	550	002.50	000.50	08/70	06/70	MASS	INTERLK MAL
370135	550	002.00	000.00	08/70	XX/67	PENN	NONE
370136	550	001.00	000.50	08/70	11/69	PENN	POWERSWITCH
370142	550	004.00	002.00	08/70	07/70	PENN	NONE
370143	550	*015.00	000.20	08/70	07/70	PENN	INTERLK MAL
370144	550	003.00	000.00	08/70	07/70	PENN	NONE
370145	550	*012.00	001.00	08/70	07/70	PENN	INTERLK MAL
370146	550	002.00	001.00	08/70	07/70	PENN	NONE
370147	550	*025.00	000.00	08/70	07/70	PENN	INTERLK MAL
370148	550	000.00	000.00	08/70	07/70	PENN	NONE
370149	550	002.00	000.00	08/70	07/70	PENN	NONE
370150	550	001.00	000.00	08/70	07/70	PENN	NONE
370151	550	000.00	000.00	08/70	07/70	PENN	NONE
370152	550	003.00	003.00	08/70	07/70	PENN	NONE
370153	550	000.00	000.00	08/70	07/70	PENN	NONE
370154	550	001.00	000.00	08/70	07/70	PENN	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
370155	550	000.00	000.00	08/70	07/70	PENN	NONE
370156	550	001.00	000.00	08/70	07/70	PENN	NONE
370157	550	000.00	000.00	08/70	07/70	PENN	NONE
370158	550	002.00	001.00	08/70	07/70	PENN	NONE
370159	550	001.00	000.00	08/70	07/70	PENN	NONE
370160	550	000.00	000.00	08/70	07/70	PENN	NONE
370161	550	004.00	001.50	08/70	07/70	PENN	NONE
370162	550	000.00	000.00	08/70	07/70	PENN	NONE
370163	550	000.00	000.00	08/70	07/70	PENN	NONE
370164	550	001.00	000.00	08/70	07/70	PENN	NONE
370165	550	002.00	000.00	08/70	07/70	PENN	NONE
460001	550	000.00	000.00	09/70	XX/XX	WASH	NONE
460003	550	000.00	000.00	09/70	04/70	WASH	NONE
460007	550	000.00	001.00	09/70	XX/69	WASH	NONE
480010	550017	000.00	003.00	08/70	09/69	WIS	NONE
480011	550017	000.00	001.00	08/70	06/70	WIS	NONE
480012	550017 SA	000.00	001.00	08/70	06/70	WIS	NONE
480013	550017 SA	000.00	000.50	08/70	06/70	WIS	NONE
480014	550017 SA	000.00	000.30	08/70	XX/XX	WIS	NONE
480015	550017 SA	000.00	000.50	08/70	XX/XX	WIS	NONE
480016	550017 SA	000.00	000.30	08/70	XX/XX	WIS	NONE
480017	550017 SA	000.00	001.50	08/70	XX/XX	WIS	NONE
480018	550017 SA	000.00	001.00	08/70	06/70	WIS	NONE
480019	550017 SA	000.00	002.50	08/70	06/70	WIS	NONE
291001	550	001.00	001.00	10/70	01/70	N J	INTERLK MAL
291002	550	000.00	001.50	10/70	01/70	N J	NONE
291003	550	000.00	000.50	10/70	03/70	N J	NONE
291004	550	000.00	000.50	10/70	01/70	N J	NONE
291005	550.017	000.00	005.00	10/70	01/70	N J	NONE
291006	550	001.30	000.75	10/70	01/67	N J	INTERLK MAL
291007	550	*025.00	*010.00	10/70	01/67	N J	INTERLK MAL
291008	550.017	000.00	000.80	10/70	10/69	N J	NONE
291009	550.017	000.00	000.40	10/70	10/69	N J	NONE
291012	550	000.00	000.70	10/70	XX/69	N J	NONE
291013	550	000.00	002.50	10/70	XX/XX	N J	NONE
371024	550.017	000.00	002.00	10/70	11/69	PENN	NONE
371027	550	000.00	003.00	10/70	01/70	PENN	NONE
371028	550	*015.00	001.00	10/70	01/70	PENN	INTERLK MAL
371029	550	000.00	005.00	10/70	11/69	PENN	NONE
371030	550	000.00	000.50	10/70	01/70	PENN	NONE
371031	550.017	000.00	000.50	10/70	01/70	PENN	NONE
371032	550	000.00	001.00	10/70	01/70	PENN	NONE
371033	550	000.00	000.50	10/70	01/70	PENN	NONE
371034	550	000.00	000.50	10/70	01/70	PENN	NONE
371035	550	000.00	000.50	10/70	01/70	PENN	NONE
371036	550	000.00	001.00	10/70	01/70	PENN	NONE
371037	550	000.00	002.25	10/70	01/70	PENN	NONE
371038	550	000.00	*020.00	10/70	06/68	PENN	NONE
371039	550	000.00	000.50	10/70	01/70	PENN	NONE
371040	550	000.00	*025.00	10/70	XX/68	PENN	NONE
371041	550.017	000.00	*006.00	10/70	01/70	PENN	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - LITTON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
371042	550	000.00	000.50	10/70	01/70	PENN	NONE
371052	550-017	*100.00	*035.00	10/70	09/69	PENN	INTERLK MAL
371053	550	*015.00	002.50	10/70	07/70	PENN	INTERLK MAL
371054	550	000.50	000.20	10/70	10/69	PENN	INTERLK MAL
371055	550	000.00	000.20	10/70	07/70	PENN	NONE
371056	550	*008.00	000.50	10/70	07/70	PENN	INTERLK MAL
371057	550	000.00	000.20	10/70	07/70	PENN	NONE
371058	550	000.00	001.00	10/70	07/70	PENN	NONE
371059	550	000.00	000.50	10/70	08/70	PENN	NONE
371060	550	000.00	000.80	10/70	08/70	PENN	NONE
371061	550	000.00	*008.00	10/70	09/69	PENN	NONE
371067	550.017	000.00	000.00	10/70	07/70	PENN	NONE
371068	550.017	000.00	001.00	10/70	08/70	PENN	NONE
371069	550.017	000.00	000.60	10/70	XX/XX	PENN	NONE
371070	550	000.00	000.50	10/70	06/70	PENN	NONE
371073	550.017	000.00	000.10	10/70	04/69	PENN	NONE
371074	550	*010.00	000.00	10/70	XX/69	PENN	INTERLK MAL
371075	550.017	000.00	000.50	10/70	10/69	PENN	NONE
371076	550.017	000.00	000.50	10/70	07/69	PENN	NONE
371077	550.017	000.00	001.60	10/70	07/69	PENN	NONE
371078	550.017	000.00	000.00	10/70	10/69	PENN	UNKNOWN
010151	850	001.50	001.50	09/70	02/70	ALA	NONE
010158	850	005.00	005.00	09/70	05/70	ALA	NONE
090165	850	*010.00	*010.00	08/70	03/70	FLA	NONE
090166	850	000.30	000.30	08/70	03/70	FLA	NONE
090167	850	005.00	005.00	08/70	03/70	FLA	NONE
090181	850	001.00	001.00	08/70	02/70	FLA	SCREEN
120058	800-3410	000.00	001.00	08/70	02/69	ILL	NONE
120059	800-W	000.00	001.00	08/70	02/69	ILL	NONE
190151	850	000.00	001.50	08/70	05/69	MD	UNKNOWN
190152	850	000.00	002.50	08/70	05/70	MD	UNKNOWN
190153	850	000.00	000.60	08/70	05/70	MD	UNKNOWN
190154	850	000.00	000.60	08/70	05/69	MD	UNKNOWN
200287	850	000.00	004.00	08/70	07/70	MASS	NONE
200289	850	000.00	001.00	08/70	XX/68	MASS	NONE
200290	850	000.00	000.90	08/70	06/69	MASS	NONE
200293	800	000.00	004.00	08/70	XX/XX	MASS	NONE
370172	850	000.00	000.00	08/70	02/70	PENN	NONE
460904	800	000.00	000.00	09/70	09/69	WASH	NONE
460908	850	000.00	000.00	09/70	XX/69	WASH	NONE
120056	510	000.00	*010.00	08/70	XX/XX	ILL	SEAL DIRTY
120057	510	000.00	005.00	08/70	XX/XX	ILL	NONE
120805	510	000.00	001.00	08/70	XX/XX	ILL	NONE
030120	0000000611	000.00	000.00	08/70	XX/XX	[illegible]	NONE
030124	0000061100	000.00	001.20	08/70	XX/XX	[illegible]	NONE
030131	0000000611	*020.00	001.00	08/70	XX/XX	[illegible]	INTERLK MAL
120088	UNKNOWN	000.00	005.00	08/70	01/69	[illegible]	NONE

MANUFACTURER LITTON

MODEL 500

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	162.	162.	162.	100.00	100.00	100.00
0.0	114.	20.	18.	70.37	12.35	11.11
0.1 TO 1.0	4.	66.	53.	2.47	40.74	32.72
1.1 TO 5.0	12.	35.	36.	7.41	21.60	22.22
5.1 TO 10.0	8.	15.	15.	4.94	9.26	9.26
10.1 TO 20.0	7.	12.	15.	4.32	7.41	9.26
20.1 TO 30.0	4.	8.	9.	2.47	4.94	5.56
30.1 TO 40.0	2.	3.	3.	1.23	1.85	1.85
40.1 TO 199.9	10.	3.	12.	6.17	1.85	7.41
200 AND OVER	1.	0.	1.	0.62	0.0	0.62

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	6.77	10.01
VARIANCE	314.20	952.93
STANDARD DEVIATION	17.73	30.87
RANGE,HIGHEST ENTRY	160.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	26.00	24.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	16.05	14.81

MANUFACTURER LITTON

MODEL 550

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	165.	165.	165.	100.00	100.00	100.00
0.0	108.	26.	14.	65.45	15.76	8.48
0.1 TO 1.0	12.	80.	69.	7.27	48.48	41.82
1.1 TO 5.0	23.	40.	48.	13.94	24.24	29.09
5.1 TO 10.0	5.	5.	8.	3.03	3.03	4.85
10.1 TO 20.0	9.	6.	13.	5.45	3.64	7.88
20.1 TO 30.0	4.	1.	4.	2.42	0.61	2.42
30.1 TO 40.0	0.	1.	0.	0.0	0.61	0.0
40.1 TO 199.9	4.	6.	9.	2.42	3.64	5.45
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	5.28	4.03
VARIANCE	310.85	170.43
STANDARD DEVIATION	17.63	13.05
RANGE,HIGHEST ENTRY	150.00	100.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	14.00	17.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	8.48	10.30

MANUFACTURER LITTON

MODEL 800/850

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	19.	19.	19.	100.00	100.00	100.00
0.0	13.	3.	3.	68.42	15.79	15.79
0.1 TO 1.0	2.	8.	8.	10.53	42.11	42.11
1.1 TO 5.0	3.	7.	7.	15.79	36.84	36.84
5.1 TO 10.0	1.	1.	1.	5.26	5.26	5.26
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	2.10	1.20
VARIANCE	6.37	7.00
STANDARD DEVIATION	2.52	2.65
RANGE,HIGHEST ENTRY	10.00	10.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MICROWAVE OVEN SURVEY
MANUFACTURER - MAG CHEF

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
010120	MC75	000.00	001.00	08/70	02/70	ALA	NONE
010122	MC-75	000.00	001.20	08/70	02/70	ALA	NONE
010123	MC75	000.00	000.60	08/70	02/70	ALA	NONE
010147	MC-75	*008.00	000.75	09/70	03/69	ALA	INTERLK MAL
010148	MC-75	*015.00	002.00	09/70	03/69	ALA	INTERLK MAL
010149	MC-75	000.00	000.50	09/70	03/69	ALA	NONE
010150	MC-75	*040.00	002.00	09/70	03/69	ALA	INTERLK MAL
090199	MC-75-020D	002.50	001.60	10/70	07/70	FLA	NONE
090200	MC-75-020D	005.00	002.00	10/70	07/70	FLA	NONE
090203	MC-75020D	000.60	000.30	10/70	06/70	FLA	NONE
090205	MC-75-020D	000.50	000.60	09/70	06/70	FLA	NONE
090207	MC-75-020A	002.00	000.40	09/70	07/70	FLA	NONE
120094	MC 75.01	000.00	002.00	08/70	08/69	ILL	NONE
120101	MC75.01	000.00	000.50	08/70	08/70	ILL	NONE
120506	MC 75.01	000.00	*025.00	08/70	XX/XX	ILL	NONE
120803	MC-75	*030.00	*007.00	08/70	08/69	ILL	UNKNOWN
150006	MC 75.01	000.00	*025.00	06/70	01/69	KAN	NONE
150007	MC 75	*007.00	000.70	06/70	03/69	KAN	NONE
190085	MC75	*040.00	000.00	06/70	03/70	MD	INTERLK MAL
200255	75	*020.00	*015.00	07/70	XX/XX	MASS	INTERLK MAL
200256	75	*025.00	*020.00	07/70	XX/XX	MASS	INTERLK MAL
200257	7501	*011.00	001.90	07/70	XX/69	MASS	INTERLK MAL
200259	75	001.20	000.80	07/70	XX/XX	MASS	INTERLK MAL
200261	75	000.00	001.10	07/70	XX/XX	MASS	NONE
200262	7501	*200.00	*200.00	07/70	01/70	MASS	INTERLK MAL
200263	75.01	*009.00	000.50	07/70	10/69	MASS	INTERLK MAL
200267	7501	000.00	004.50	07/70	XX/XX	MASS	SEAL CRACKD
200268	7500	000.00	000.40	07/70	05/70	MASS	NONE
200269	7501	000.00	*015.00	07/70	01/70	MASS	LATCH BRKN
200270	7501	005.00	005.00	07/70	XX/69	MASS	HINGES WORN
200271	7501	002.00	002.00	07/70	06/69	MASS	HINGES WORN
200272	7501	000.00	005.00	07/70	01/70	MASS	HINGES WORN
200273	75	000.00	000.00	07/70	10/69	MASS	NONE
200280	75.01	*011.00	001.00	08/70	04/69	MASS	INTERLK MAL
200281	75.01	000.00	*030.00	08/70	04/69	MASS	SEAL LOOSE
370087	ME75.020D	001.00	002.00	06/70	06/70	PENN	NONE
370088	ME75.020D	000.50	000.50	06/70	XX/XX	PENN	NONE
370089	ME75.020D	001.00	001.00	06/70	06/70	PENN	NONE
370090	ME75.020D	001.00	001.00	06/70	06/70	PENN	NONE
370091	ME75.020D	001.00	001.00	06/70	06/70	PENN	NONE
370092	ME75.020D	001.00	001.00	06/70	06/70	PENN	NONE
370093	ME75.020A	001.00	001.00	06/70	06/70	PENN	NONE
370094	ME75.020D	000.00	000.00	06/70	06/70	PENN	NONE
370098	75.01	*010.00	001.00	07/70	01/70	PENN	INTERLOCK
370099	75.020A	000.00	000.00	07/70	03/70	PENN	NONE
370100	72.020A	000.00	000.00	07/70	03/70	PENN	NONE
370171	MC 75.01	*020.00	*006.00	08/70	06/70	PENN	INTERLK MAL
370174	75	000.00	001.00	09/70	04/70	PENN	NONE
380264	75.01	*030.00	*009.00	07/70	10/69	R I	INTERLK MAL
380274	75.01	000.00	002.50	08/70	12/69	R I	NONE
380275	75	*013.00	002.00	08/70	02/70	R I	INTERLK MAL

MICROWAVE OVEN SURVEY
MANUFACTURER - MAG CHEF

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
380276	75.01	000.00	001.50	08/70	08/69	R I	NONE
380277	75	000.00	001.50	08/70	07/70	R I	NONE
380278	75.01	*020.00	*018.00	08/70	09/69	R I	INTERLK MAL
380279	75.01	*018.00	*008.00	08/70	09/69	R I	INTERLK MAL
450022	MC-75	000.60	000.90	06/70	01/69	VA	NONE
080024	UNKNOWN	*095.00	*006.00	06/70	05/69	D C	INTERLK MAL
120504	MC200.01	000.00	*170.00	08/70	00/67	ILL	NONE
190113	UNKNOWN	*008.00	*010.00	06/70	XX/69	MD	NONE
190114	UNKNOWN	*030.00	*025.00	06/70	XX/69	MD	INTERLK MAL
200254	UNKNOWN	000.00	000.00	07/70	11/69	MASS	NONE
200258	UNKNOWN	003.50	003.50	07/70	XX/69	MASS	HINGES WORN
370042	UNKNOWN	001.00	001.00	06/70	06/69	PENN	NONE

MANUFACTURER MAGIC CHEF

MODEL 75

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	56.	56.	56.	100.00	100.00	100.00
0.0	22.	5.	4.	39.29	8.93	7.14
0.1 TO 1.0	10.	22.	15.	17.86	39.29	26.79
1.1 TO 5.0	6.	17.	15.	10.71	30.36	26.79
5.1 TO 10.0	4.	4.	4.	7.14	7.14	7.14
10.1 TO 20.0	8.	4.	9.	14.29	7.14	16.07
20.1 TO 30.0	3.	3.	6.	5.36	5.36	10.71
30.1 TO 40.0	2.	0.	2.	3.57	0.0	3.57
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	1.	1.	1.	1.79	1.79	1.79

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	7.75	9.87
VARIANCE	733.05	776.24
STANDARD DEVIATION	27.07	27.86
RANGE,HIGHEST ENTRY	200.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	8.00	14.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	14.29	25.00

MICROWAVE OVEN SURVEY
MANUFACTURER - OMNIVEND

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
010001	110A	000.00	002.00	05/70	09/66	ALA	NONE
010002	110B	003.50	001.50	05/70	05/66	ALA	NONE
010007	110B	000.00	005.00	05/70	10/67	ALA	NONE
010008	110B	000.00	001.50	05/70	10/68	ALA	NONE
010030	110B	003.00	003.00	06/70	05/67	ALA	NONE
010031	110B	001.50	001.50	06/70	03/67	ALA	NONE
010034	110B	000.00	*008.00	05/70	04/67	ALA	LATCH BRKN
010036	110B	*006.00	000.80	06/70	03/67	ALA	NONE
010052	110D	000.00	000.50	06/70	09/69	ALA	NONE
010053	110D	000.00	*015.00	06/70	07/69	ALA	LOOSE SCREW
010054	110D	000.00	001.50	06/70	07/69	ALA	NONE
010055	110D	000.00	001.50	06/70	09/69	ALA	NONE
010060	110D	000.00	004.50	06/70	11/69	ALA	NONE
010061	110D	*009.00	001.60	06/70	11/69	ALA	NONE
010062	110D	000.00	000.50	06/70	11/69	ALA	NONE
010064	110B	000.00	002.00	06/70	01/67	ALA	NONE
010067	110D	000.00	*007.00	06/70	08/69	ALA	NONE
010068	110D	*050.00	002.50	06/70	11/69	ALA	INTERLK MAL
010071	110D	000.00	003.00	06/70	03/70	ALA	NONE
010072	110C	*040.00	002.00	06/70	09/68	ALA	INTERLOCK
010073	110D	000.00	003.00	06/70	03/70	ALA	NONE
010074	110D	000.00	003.50	06/70	03/70	ALA	NONE
010075	110D	000.00	002.00	00/70	12/68	ALA	NONE
010077	110D	000.00	001.50	06/70	12/68	ALA	NONE
010078	110	*150.00	*010.00	06/70	XX/XX	ALA	INTERLK MAL
010079	110D	000.00	000.50	06/70	05/70	ALA	NONE
010088	110D	*015.50	001.70	06/70	09/69	ALA	INTERLK MAL
010089	110D	000.00	001.00	06/70	08/69	ALA	NONE
010090	110D	000.00	003.00	06/70	09/69	ALA	NONE
010094	110A	000.00	000.80	07/70	08/65	ALA	NONE
010095	110A	002.50	001.50	07/70	03/68	ALA	NONE
010101	110D	001.50	001.50	07/70	01/69	ALA	NONE
010169	110-D	000.00	002.50	09/70	09/69	ALA	NONE
010170	110	000.00	002.50	09/70	05/68	ALA	NONE
030092	SPEED110	*012.00	*012.00	06/70	09/66	ARK	SHIELD
030093	SPEED110	*007.00	*007.00	06/70	09/66	ARK	NONE
030094	110	000.00	*025.00	06/70	XX/67	ARK	SHIELD
030095	110	000.00	*006.00	06/70	XX/67	ARK	SEAL CRACKS
080035	110	000.00	000.50	06/70	04/70	D C	NONE
090053	110D	000.00	002.20	05/70	08/69	FLA	NONE
090056	110D	000.00	001.50	05/70	08/69	FLA	NONE
090057	110D	000.00	002.00	05/70	07/69	FLA	NONE
090059	110D	000.00	002.50	05/70	09/69	FLA	NONE
090060	110D	000.00	*013.00	05/70	07/69	FLA	NONE
090063	110D	000.00	*006.00	06/70	09/69	FLA	NONE
090064	110D	000.00	002.20	06/70	09/69	FLA	NONE
090065	110D	000.00	004.00	06/70	08/69	FLA	SEAL LOOSE
090066	110D	000.00	001.20	06/70	09/69	FLA	NONE
090069	110D	000.00	001.80	06/70	08/69	FLA	NONE
090075	110D	000.00	004.00	06/70	09/69	FLA	NONE
090076	110D	000.00	002.50	06/70	XX/XX	FLA	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - OMNIVEND

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
090193	110	003.40	002.50	09/70	XX/XX	FLA	SEAL LOOSE
090196	110	*011.50	*011.00	09/70	XX/XX	FLA	SEAL LOOSE
120009	110	*200.00	*090.00	06/70	XX/XX	ILL	NONE
120036	110D	001.00	001.00	06/70	XX/XX	ILL	NONE
120037	110D	004.00	000.00	06/70	XX/XX	ILL	NONE
120049	110-D	000.70	000.50	07/70	XX/XX	ILL	SEAL CRACKD
120050	110	*100.00	*015.00	07/70	XX/XX	ILL	NONE
120051	110	*040.00	000.50	07/70	XX/XX	ILL	HINGES WORN
120092	110D	000.00	000.50	08/70	XX/XX	ILL	NONE
120094	110	*060.00	*008.00	08/70	XX/XX	ILL	NONE
120095	110D	000.00	002.00	08/70	XX/XX	ILL	NONE
120096	110D	000.00	000.50	08/70	XX/XX	ILL	NONE
120117	110D	*006.00	003.00	09/70	XX/XX	ILL	NONE
120119	110	000.00	*050.00	09/70	XX/XX	ILL	NONE
120120	110D	002.50	002.00	09/70	XX/XX	ILL	NONE
120122	110D	000.00	002.00	09/70	XX/XX	ILL	NONE
160022	110	*012.00	002.50	06/70	06/67	KY	INTERLK MAL
160023	110	001.50	000.70	06/70	06/67	KY	NONE
160024	110	*110.00	*008.50	06/70	06/67	KY	SEAL CRACKD
160026	110	003.00	001.00	06/70	07/68	KY	WARN LIGHT
200095	110A	000.00	002.00	05/70	05/68	MASS	NONE
280030	110D	001.00	001.00	06/70	06/69	N H	NONE
370039	110-B	000.00	000.00	06/70	10/68	PENN	NONE
480507	110-D	000.00	000.60	07/70	02/70	WIS	UNKNOWN
080015	UNKNOWN	000.00	000.10	05/70	XX/XX	D C	NONE
280040	UNKNOWN	000.50	000.50	06/70	XX/XX	N H	NONE

MANUFACTURER OMNIVEND

MODEL 110

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	75.	75.	75.	100.00	100.00	100.00
0.0	46.	3.	2.	61.33	4.00	2.67
0.1 TO 1.0	3.	15.	11.	4.00	20.00	4.67
1.1 TO 5.0	10.	41.	38.	13.33	54.67	50.67
5.1 TO 10.0	4.	8.	8.	5.33	10.67	10.67
10.1 TO 20.0	4.	5.	6.	5.33	6.67	8.00
20.1 TO 30.0	0.	1.	1.	0.0	1.33	1.33
30.1 TO 40.0	2.	0.	2.	2.67	0.0	2.67
40.1 TO 199.9	5.	2.	6.	6.67	2.67	8.00
200 AND OVER	1.	0.	1.	1.33	0.0	1.33

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	5.30	11.44
VARIANCE	145.09	1148.97
STANDARD DEVIATION	12.05	33.90
RANGE,HIGHEST ENTRY	90.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	8.00	12.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	10.67	16.00

MICROWAVE OVEN SURVEY
MANUFACTURER - RAYTHEON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
200227	1162	000.00	000.00	05/70	XX/62	MASS	NONE
280001	1161	001.00	001.00	06/70	XX/XX	N H	NONE
280004	1161	001.00	002.00	06/70	XX/XX	N H	NONE
280022	1161	*025.00	*025.00	06/70	XX/XX	N H	INTERLK MAL
370001	1161	*010.00	004.00	05/70	06/57	PENN	NONE
120116	1161	*110.00	*014.00	09/70	19/55	ILL	INTERLK MAL
120118	1161	*200.00	*040.00	09/70	19/64	ILL	INTERLK MAL
010168	MARK III		*020.00	09/70	06/57	ALA	SEAL LOOSE
120121	MARK III	*200.00	000.00	09/70	XX/XX	ILL	INTERLK MAL
010040	MARK III	000.00	004.00	06/70	03/65	ALA	NONE
370009	MARK III	*200.00	001.00	05/70	05/61	PENN	INTERLOCK
370175	III	*200.00	*120.00	09/70	06/60	PENN	INTERLK MAL
370176	III	*070.00	*009.00	09/70	06/60	PENN	INTERLK MAL
370178	III	*050.00	005.00	09/70	06/60	PENN	INTERLK MAL
010037	MARK IV	000.00	000.00	06/70	10/67	ALA	NONE
010038	MARK IV	000.00	000.00	06/70	12/65	ALA	NONE
010039	MARK IV	000.50	000.50	06/70	10/67	ALA	NONE
010041	MARK IV	000.90	000.50	06/70	10/67	ALA	NONE
010042	MARK IV	003.00	003.00	06/70	10/67	ALA	NONE
010043	MARK IV	000.80	000.80	06/70	10/67	ALA	NONE
030098	MARK IV	000.00	000.00	06/70	XX/64	ARK	NONE
080025	MARK IV	000.00	001.00	06/70	07/67	D C	NONE
080026	MARK IV	001.10	001.10	06/70	XX/65	D C	NONE
090061	MARK IV B	002.70	002.70	05/70	01/64	FLA	NONE
090114	MARK IV D	003.50	003.50	07/70	05/67	FLA	NONE
090115	MARK IV D	000.70	000.70	07/70	05/67	FLA	NONE
090192	IV-D	001.2[illegible]	001.30	09/70	06/67	FLA	SCREEN
090197	MARK IV	002.00	002.00	09/70	XX/67	FLA	NONE
120006	MARK IV-D	000.60	000.03	06/70	06/66	ILL	NONE
120007	MARK IV-D	001.00	001.00	06/70	06/66	ILL	NONE
120046	MARK IV D	003.00	003.00	07/70	01/67	ILL	NONE
160025	MARK IV	000.00	002.00	06/70	06/65	KY	NONE
190084	MARK IV	000.00	000.00	06/70	06/68	MD	NONE
190123	MARK IV	000.00	001.00	06/70	09/67	MD	NONE
190132	MARK IV	000.00	001.20	06/70	XX/64	MD	NONE
200215	MARK IV	000.00	000.00	05/70	XX/69	MASS	NONE
200231	MARK IV	000.50	000.50	05/70	XX/67	MASS	NONE
200237	MARK IV	000.00	000.00	05/70	XX/XX	MASS	NONE
200253	MARK IV	000.00	000.00	05/70	XX/XX	MASS	NONE
280045	MARK IV	000.00	000.50	06/70	XX/XX	N H	NONE
370013	MR IV	000.00	000.00	05/70	08/66	PENN	NONE
370062	IV	000.00	000.00	06/70	06/63	PENN	WARN LIGHT
370063	IV	*015.00	*010.00	06/70	06/64	PENN	UNKNOWN
370064	IV	000.00	000.00	06/70	06/66	PENN	NONE
370066	IV	000.00	000.00	06/70	06/65	PENN	NONE
370068	IV	*013.00	000.00	06/70	01/60	PENN	UNKNOWN
370076	IV	000.00	000.00	06/70	06/68	PENN	NONE
010015	MARK 5	*100.00	*006.00	05/70	05/65	ALA	SEAL LOOSE
010056	MARK V	*040.00	004.50	06/70	05/66	ALA	SEAL LOOSE
010057	MARK V	*035.00	004.00	06/70	06/62	ALA	SEAL LOOSE
010058	MARK V	*012.00	003.00	06/70	04/64	ALA	INTERLK MAL

MICROWAVE OVEN SURVEY
MANUFACTURER - RAYTHEON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
010063	MARK V	*085.00	*020.00	06/70	06/67	ALA	SEAL LOOSE
010065	MARK V	001.00	000.50	06/70	04/68	ALA	NONE
010146	MARK V	000.20	000.20	09/70	02/66	ALA	NONE
030007	MARK V	000.00	000.00	05/70	03/64	ARK	NONE
030021	MARK V	000.00	000.00	05/70	06/67	ARK	NONE
030028	MARK V	000.00	000.00	05/70	06/68	ARK	NONE
030029	MARK V	000.00	002.00	05/70	01/66	ARK	NONE
030030	MARK V	*010.00	003.00	05/70	06/65	ARK	HINGES WORN
030032	MARK V	001.00	001.00	05/70	01/66	ARK	NONE
030039	MARK V	*006.00	000.00	05/70	06/65	ARK	NONE
030040	MARK V	*010.00	002.00	05/70	06/65	ARK	HINGES WORN
030045	MARK V	000.00	000.00	06/70	XX/XX	ARK	NONE
030105	00000MARKV	*020.00	005.00	08/70	XX/66	ARK	INTERLK MAL
030109	00000MARKV	000.00	000.00	08/70	10/66	ARK	NONE
030118	00000MARKV	*013.00	005.00	08/70	XX/XX	ARK	INTERLK MAL
030119	00000MARKV	000.00	005.00	08/70	XX/XX	ARK	NONE
030129	00000MARKV	000.00	000.00	08/70	XX/67	ARK	NONE
030130	00000MARKV	005.00	005.00	08/70	XX/66	ARK	HINGES WORN
030148	MARK V	000.00	002.50	09/70	XX/67	ARK	NONE
080018	MARK V	000.00	000.00	06/70	12/68	D C	NONE
080019	MARK V	*006.00	001.00	06/70	01/70	D C	SEAL DIRTY
080021	MARK V	*007.50	001.20	06/70	XX/68	D C	SEAL DIRTY
080022	MARK V	*008.00	002.50	06/70	XX/66	D C	NONE
080023	MARK V	000.00	000.00	06/70	XX/56	D C	NONE
090054	MARK V	*006.50	002.00	05/70	02/68	FLA	DOOR MSLN
090058	MARK V	001.30	001.00	05/70	06/67	FLA	NONE
090062	MARK V	003.30	001.30	06/70	01/68	FLA	NONE
090067	MARK V	001.20	000.40	06/70	01/63	FLA	NONE
090068	MARK V	*009.00	*006.00	06/70	05/68	FLA	POWERSWITCH
090070	MARK V	*007.00	005.00	06/70	XX/XX	FLA	NONE
090072	MARK V	*060.00	*008.00	06/70	06/68	FLA	INTERLK MAL
090073	MARK V	*055.00	*040.00	06/70	11/65	FLA	INTERLK MAL
090077	MARK V	*025.00	*025.00	06/70	09/68	FLA	INTERLK MAL
090078	MARK V	001.00	001.00	06/70	01/67	FLA	NONE
090110	MARK V	001.00	000.90	07/70	01/68	FLA	NONE
090162	MARK V	*009.00	001.50	08/70	04/68	FLA	NONE
090164	MARK V	*020.00	002.50	08/70	XX/XX	FLA	INTERLK MAL
090185	MARK V	000.60	000.60	09/70	08/68	FLA	NONE
090198	MARK V	*072.00	*014.00	09/70	XX/XX	FLA	INTERLK MAL
090208	MARK V	000.30	000.30	10/70	XX/XX	FLA	NONE
100102	MARK V	003.00	000.50	07/70	04/64	GA	NONE
100103	MARK V	002.00	000.00	07/70	06/65	GA	NONE
120001	MARK V	*020.00	004.00	06/70	XX/XX	ILL	INTERLK MAL
120014	MARK V	*010.00	002.00	06/70	01/69	ILL	SEAL LOOSE
120021	MARK V	*020.00	004.00	06/70	06/65	ILL	INTERLK MAL
120045	MARK V	*017.00	001.00	07/70	XX/XX	ILL	SEAL LOOSE
120047	MARK V	*030.00	*030.00	07/70	06/67	ILL	NONE
120053	MARK V	005.00	002.00	07/70	01/70	ILL	NONE
120085	MARK V	001.00	001.00	08/70	XX/XX	ILL	NONE
120500	MARK V	003.00	001.00	07/70	04/69	ILL	NONE
120501	MARK V	*020.00	001.00	07/70	06/63	ILL	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - RAYTHEON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
120502	MARK V	001.00	001.00	07/70	06/68	ILL	NONE
120505	MARK V	*040.00	005.00	08/70	12/65	ILL	NONE
120802	MARK V	000.50	001.00	08/70	06/63	ILL	NONE
160011	MARK V	000.00	000.50	05/70	08/63	KY	NONE
190052	MARK V	001.70	000.20	05/70	02/66	MD	NONE
190062	MARK V	*007.00	003.00	05/70	10/68	MD	SEAL LOOSE
190077	MARK V	000.00	000.50	06/70	06/69	MD	NONE
190078	MARK V	000.00	002.00	06/70	XX/XX	MD	NONE
190087	MARK V	000.00	000.00	06/70	XX/XX	MD	NONE
190093	MARK V	000.00	002.00	06/70	06/67	MD	SEAL DIRTY
190105	MARK V	001.00	001.00	06/70	02/63	MD	NONE
190111	MARK V	001.00	001.00	06/70	06/69	MD	NONE
190112	MARK V	000.20	000.20	06/70	06/67	MD	NONE
190117	MARK V	000.00	*060.00	06/70	11/68	MD	UNKNOWN
190125	MARK V	000.50	000.40	06/70	XX/68	MD	NONE
190130	MARK V	002.20	000.80	06/70	06/68	MD	NONE
190133	MARK V	000.40	000.30	06/70	XX/66	MD	NONE
190134	MARK V	000.00	001.00	06/70	XX/XX	MD	NONE
190138	MARK V	000.00	*012.00	06/70	02/67	MD	NONE
200090	MARK V	*009.00	*006.00	05/70	05/66	MASS	SEAL DIRTY
200099	MARK V	001.50	001.50	05/70	05/66	MASS	SEAL DIRTY
200124	MARK V	000.80	000.80	05/70	10/68	MASS	SEAL DIRTY
200211	MARK V	000.00	000.00	05/70	05/69	MASS	NONE
200217	MARK V	003.00	001.00	05/70	XX/64	MASS	NONE
200218	MARK V	000.00	000.00	05/70	XX/XX	MASS	NONE
200219	MARK V	000.10	000.10	05/70	XX/XX	MASS	HINGES WORN
200220	MARK V	*040.00	000.30	05/70	XX/XX	MASS	INTERLK MAL
200221	MARK V	002.00	002.00	05/70	XX/XX	MASS	NONE
200223	MARK V	000.00	001.00	05/70	XX/XX	MASS	NONE
200224	MARK V	000.00	005.00	05/70	XX/68	MASS	SEAL LOOSE
200225	MARK V	000.00	001.00	05/70	XX/XX	MASS	NONE
200226	MARK V	000.00	000.00	05/70	XX/XX	MASS	NONE
200228	MARK V	000.00	000.00	05/70	08/68	MASS	INTERLK MAL
200229	MARK V	000.00	000.00	05/70	XX/XX	MASS	NONE
200230	MARK V	000.00	000.00	05/70	XX/XX	MASS	NONE
280003	MARK V	003.00	003.00	06/70	XX/XX	N H	NONE
280012	MARKV	000.00	000.00	06/70	XX/XX	N H	NONE
280013	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280014	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280015	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280016	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280023	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280024	MARK V	002.00	002.00	06/70	XX/XX	N H	NONE
280025	MARK V	002.00	002.00	06/70	XX/XX	N H	NONE
280032	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280033	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280034	MARK V	001.00	001.00	06/70	XX/XX	N H	NONE
280036	MARK V	000.00	000.00	06/70	XX/XX	N H	NONE
280041	MARK V	001.50	001.50	06/70	XX/XX	N H	NONE
280042	MARK V	002.50	002.50	06/70	XX/XX	N H	HINGES WORN
370002	MARK V	000.00	000.00	05/70	10/68	PENN	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - RAYTHEON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
370003	MK V	000.00	000.00	05/70	08/66	PENN	NONE
370008	MR V	000.00	000.00	05/70	07/69	PENN	NONE
370010	MR V	000.00	000.00	05/70	06/67	PENN	NONE
370012	MR V	000.00	000.00	05/70	08/68	PENN	NONE
370016	MARK V	000.00	000.00	05/70	08/67	PENN	NONE
370017	MR V	000.00	000.00	05/70	XX/65	PENN	NONE
370018	MR V	000.00	000.00	05/70	08/66	PENN	NONE
370019	MR V	000.00	000.00	05/70	05/66	PENN	NONE
370020	MR V	000.00	000.00	05/70	08/66	PENN	NONE
370022	MK V	000.00	000.00	05/70	XX/XX	PENN	WARN LIGHT
370023	MK V	000.00	000.00	05/70	04/69	PENN	NONE
370024	MK V	000.00	000.00	05/70	04/69	PENN	NONE
370025	MK V	000.00	000.00	05/70	08/66	PENN	NONE
370026	MK V	000.00	000.00	05/70	08/66	PENN	NONE
370028	MK V	000.00	000.00	05/70	08/69	PENN	NONE
370029	MK V	000.00	000.00	05/70	06/65	PENN	NONE
370030	MK V	000.00	000.00	05/70	06/67	PENN	NONE
370065	V	000.00	000.00	06/70	05/68	PENN	NONE
370097	MARK V	000.00	000.00	06/70	06/66	PENN	NONE
370139	V5	000.00	000.00	08/70	06/66	PENN	NONE
370166	MK V	000.00	000.00	08/70	08/69	PENN	NONE
370167	MK V	*006.00	001.00	08/70	07/66	PENN	NONE
370168	MK V	002.00	001.00	08/70	08/67	PENN	NONE
370169	MK V	000.00	000.00	08/70	07/68	PENN	POWERSWITCH
370170	MK V	000.00	000.00	08/70	08/68	PENN	NONE
370173	MK V	000.00	000.00	09/70	04/70	PENN	NONE
450009	MARK V	000.00	000.00	06/70	XX/68	VA	NONE
450011	MARK V	000.00	003.00	06/70	XX/XX	VA	NONE
450012	MARK V	000.00	000.00	06/70	XX/68	VA	NONE
010009	MARK 625	*007.00	*007.00	05/70	03/67	ALA	NONE
010010	MARK 620	001.50	001.50	05/70	08/67	ALA	NONE
010012	MARK 620	000.00	000.00	05/70	11/68	ALA	NONE
010013	MARK 620	000.00	000.00	05/70	12/68	ALA	NONE
010019	MARK VI	002.00	002.00	05/70	03/67	ALA	NONE
010020	MARK VI	000.80	002.00	05/70	08/67	ALA	NONE
030019	MARK VI	000.00	000.00	05/70	04/68	ARK	NONE
030031	MARK VI	000.00	000.00	05/70	01/69	ARK	NONE
090055	MARK VI	001.50	001.50	05/70	08/69	FLA	SEAL DIRTY
090071	MARK VI	000.40	000.40	06/70	06/69	FLA	NONE
090074	MARK VI	*017.00	*017.00	06/70	05/67	FLA	INTERLK MAL
090079	MARK VI	000.20	000.20	06/70	01/69	FLA	NONE
090109	VI-10	*006.00	*009.00	07/70	08/68	FLA	NONE
090161	MARK VI	000.20	000.30	08/70	08/68	FLA	NONE
090190	VI-10	000.30	000.20	09/70	02/68	FLA	NONE
100101	MARK VI	000.00	000.50	07/70	10/69	GA	NONE
120002	MARK VI-10	000.50	000.40	05/70	09/68	ILL	NONE
120004	MARK VI-10	000.40	000.30	06/70	01/69	ILL	NONE
120005	MARK VI	000.00	000.00	06/70	06/67	ILL	NONE
120010	MARK VI-20	001.00	001.00	06/70	11/67	ILL	NONE
120042	MARK VI	004.00	004.00	07/70	06/68	ILL	NONE
120043	MARK VI-20	004.00	003.00	07/70	07/68	ILL	NONE

MICROWAVE OVEN SURVEY
MANUFACTURER - RAYTHEON

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
120044	MARK VI-20	003.00	003.00	07/70	07/68	ILL	NONE
120048	MARK VI-20	000.10	000.10	07/70	06/68	ILL	NONE
120060	MARK VI-10	000.00	000.00	08/70	XX/68	ILL	NONE
120061	MARK VI-10	000.30	000.30	08/70	06/68	ILL	NONE
120066	VI	000.00	*030.00	08/70	08/68	ILL	HINGES BRKN
160012	MARK VI 20	000.00	*020.00	05/70	04/67	KY	UNKNOWN
160014	MARK VI	000.00	*065.00	05/70	04/67	KY	SEAL CRACKD
160015	MARK VI	*015.00	*012.00	05/70	05/67	KY	NONE
200140	MARK VI	000.60	000.60	05/70	XX/XX	MASS	NONE
200185	MARK VI	000.20	000.20	05/70	XX/XX	MASS	NONE
200187	MARK VI	000.20	000.20	05/70	XX/67	MASS	NONE
200207	MARK VI	000.00	000.60	05/70	06/67	MASS	NONE
200208	MARK VI	000.00	000.50	05/70	XX/XX	MASS	NONE
200210	MARK VI	000.00	000.30	05/70	XX/65	MASS	NONE
200212	MARK VI	005.00	000.90	05/70	XX/67	MASS	NONE
200214	MARK VI	000.70	000.70	05/70	XX/XX	MASS	NONE
200216	MARK VI	000.00	000.00	05/70	XX/68	MASS	NONE
200222	MARK VI	000.00	000.00	05/70	XX/68	MASS	LATCH BRKN
200232	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200233	MARK VI	000.00	000.50	05/70	XX/XX	MASS	SEAL DIRTY
200234	MARK VI	005.00	003.50	05/70	XX/XX	MASS	SEAL LOOSE
200235	MARK VI	000.00	001.00	05/70	XX/XX	MASS	NONE
200236	MARK VI	000.00	001.50	05/70	XX/XX	MASS	NONE
200238	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200239	MARK VI 20	000.00	000.00	05/70	XX/XX	MASS	NONE
200243	MARK VI	000.00	000.00	05/70	11/69	MASS	NONE
200244	MARK VI	000.00	000.00	05/70	06/69	MASS	NONE
200245	MARK VI	000.00	000.00	05/70	06/69	MASS	HINGES JMMD
200246	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200247	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200248	MARK VI	000.00	000.50	05/70	XX/XX	MASS	NONE
200249	MARK VI	001.50	000.00	05/70	XX/XX	MASS	NONE
200250	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200251	MARK VI	001.50	002.50	05/70	XX/XX	MASS	NONE
200252	MARK VI	000.00	000.00	05/70	XX/XX	MASS	NONE
200315	MARK VI 20	002.50	002.00	09/70	08/69	MASS	INTERLK MAL
270004	MARK VI 10	000.00	000.00	05/70	XX/68	NEV	NONE
280035	MARK VI	000.00	000.00	06/70	01/68	N H	NONE
280043	MARK VI	000.50	000.50	06/70	XX/XX	N H	NONE
280044	MARK VI	001.50	001.50	06/70	XX/XX	N H	NONE
370011	MR VI	000.00	000.00	05/70	06/69	PENN	NONE
370021	MR VI	000.00	000.00	05/70	08/68	PENN	NONE
370034	MARK VI	*015.00	001.00	06/70	06/69	PENN	INTERLK MAL
370067	VI	000.00	000.00	06/70	01/69	PENN	NONE
370101	MARK VI	001.00	001.00	07/70	06/69	PENN	NONE
480510	MARK VI-20	000.10	000.00	07/70	00/67	WIS	NONE
480512	MARK VI-20	000.90	000.90	07/70	00/68	WIS	NONE
270009	MARK	002.50	003.00	05/70	XX/XX	NEV	NONE
120052	UNKNOWN	003.00	001.00	07/70	XX/XX	ILL	NONE
120801	XXXX	*200.00	*160.00	08/70	01/60	ILL	INTERLOCK

MANUFACTURER RAYTHEON

MODEL 1161

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	7.	7.	7.	100.00	100.00	100.00
0.0	1.	1.	1.	14.29	14.29	14.29
0.1 TO 1.0	2.	1.	1.	28.57	14.29	14.29
1.1 TO 5.0	0.	2.	1.	0.0	28.57	14.29
5.1 TO 10.0	1.	0.	1.	14.29	0.0	14.29
10.1 TO 20.0	0.	1.	0.	0.0	14.29	0.0
20.1 TO 30.0	1.	1.	1.	14.29	14.29	14.29
30.1 TO 40.0	0.	1.	0.	0.0	14.29	0.0
40.1 TO 199.9	1.	0.	1.	14.29	0.0	14.29
200 AND OVER	1.	0.	1.	14.29	0.0	14.29

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	12.29	49.57
VARIANCE	230.90	5937.62
STANDARD DEVIATION	15.20	77.06
RANGE,HIGHEST ENTRY	40.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	3.00	3.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	42.86	42.86

MANUFACTURER RAYTHEON

MODEL MARK 3

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	7.	7.	7.	100.00	100.00	100.00
0.0	2.	1.	0.	28.57	14.29	0.0
0.1 TO 1.0	0.	1.	0.	0.0	14.29	0.0
1.1 TO 5.0	0.	2.	1.	0.0	28.57	14.29
5.1 TO 10.0	0.	1.	0.	0.0	14.29	0.0
10.1 TO 20.0	0.	1.	1.	0.0	14.29	14.29
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	2.	1.	2.	28.57	14.29	28.57
200 AND OVER	3.	0.	3.	42.86	0.0	42.86

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	22.71	102.86
VARIANCE	1885.24	8890.47
STANDARD DEVIATION	43.42	94.29
RANGE,HIGHEST ENTRY	120.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	2.00	5.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	28.57	71.43

MANUFACTURER RAYTHEON

MODEL MARK 4

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	33.	33.	33.	100.00	100.00	100.00
0.0	17.	13.	12.	51.52	39.39	36.36
0.1 TO 1.0	7.	10.	10.	21.21	30.30	30.30
1.1 TO 5.0	7.	9.	9.	21.21	27.27	27.27
5.1 TO 10.0	0.	1.	0.	0.0	3.03	0.0
10.1 TO 20.0	2.	0.	2.	6.06	0.0	6.06
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	1.10	1.50
VARIANCE	3.59	11.49
STANDARD DEVIATION	1.90	3.39
RANGE,HIGHEST ENTRY	10.00	15.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	2.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	6.06

MANUFACTURER RAYTHEON

MODEL MARK 5

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	136.	136.	136.	100.00	100.00	100.00
0.0	65.	54.	51.	47.79	39.71	37.50
0.1 TO 1.0	17.	35.	22.	12.50	25.74	16.18
1.1 TO 5.0	20.	36.	27.	14.71	26.47	19.85
5.1 TO 10.0	15.	4.	15.	11.03	2.94	11.03
10.1 TO 20.0	8.	3.	9.	5.88	2.21	6.62
20.1 TO 30.0	2.	2.	2.	1.47	1.47	1.47
30.1 TO 40.0	4.	1.	4.	2.94	0.74	2.94
40.1 TO 199.9	5.	1.	6.	3.68	0.74	4.41
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	2.65	6.65
VARIANCE	52.46	254.07
STANDARD DEVIATION	7.24	15.94
RANGE,HIGHEST ENTRY	60.00	100.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	7.00	19.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	5.15	13.97

MANUFACTURER RAYTHEON

MODEL MARK 6

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	69.	69.	69.	100.00	100.00	100.00
0.0	34.	25.	23.	49.28	36.23	33.33
0.1 TO 1.0	18.	25.	24.	26.09	36.23	34.78
1.1 TO 5.0	12.	12.	14.	17.39	17.39	20.29
5.1 TO 10.0	2.	2.	2.	2.90	2.90	2.90
10.1 TO 20.0	3.	3.	4.	4.35	4.35	5.80
20.1 TO 30.0	0.	1.	1.	0.0	1.45	1.45
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	1.	1.	0.0	1.45	1.45
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	2.91	1.47
VARIANCE	82.12	11.66
STANDARD DEVIATION	9.06	3.41
RANGE,HIGHEST ENTRY	65.00	17.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	5.00	3.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	7.25	4.35

MICROWAVE OVEN SURVEY
MANUFACTURER - ROPER

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
090081	1039927001	000.00	000.80	07/70	11/69	FLA	NONE
090083	1039927001	000.00	000.20	07/70	11/69	FLA	SCREEN
090087	1039927001	000.00	000.00	07/70	01/70	FLA	NONE
090088	1039927001	000.00	000.00	07/70	11/69	FLA	NONE
090089	1039927001	000.00	000.00	07/70	11/69	FLA	NONE
090090	1039927001	000.00	000.00	07/70	12/69	FLA	NONE
090091	1039927001	000.00	000.00	07/70	12/69	FLA	NONE
090093	1039927001	000.00	000.00	07/70	01/70	FLA	NONE
090095	1039927001	000.00	000.08	07/70	12/69	FLA	SCREEN
090098	1039927001	000.00	000.20	07/70	12/69	FLA	NONE
090112	1039927001	000.00	000.20	07/70	04/70	FLA	NONE
090113	1039927001	000.00	000.40	07/70	04/70	FLA	NONE
090135	1039927001	000.00	000.00	07/70	12/69	FLA	NONE
090137	103992700	000.00	000.80	07/70	11/69	FLA	NONE
090139	1039927001	000.00	000.00	07/70	12/69	FLA	NONE
090141	1039927001	000.00	000.00	07/70	02/70	FLA	NONE
090147	103992700	000.00	*006.00	08/70	12/69	FLA	NONE
090155	1039927001	000.00	000.10	08/70	12/69	FLA	NONE
090156	1039927001	000.00	000.10	08/70	12/69	FLA	NONE
090080	1039946800	*014.00	005.00	07/70	12/69	FLA	INTERLK MAL
090082	1039946800	*018.00	000.60	07/70	06/69	FLA	INTERLK MAL
090084	1039946860	*035.00	000.40	07/70	11/69	FLA	INTERLK MAL
090085	1039946800	*100.00	000.00	07/70	08/69	FLA	INTERLK MAL
090086	1039946400	*050.00	000.00	07/70	11/69	FLA	INTERLK MAL
090092	1039946840	*040.00	000.50	07/70	01/70	FLA	INTERLK MAL
090094	1039946800	*140.00	000.90	07/70	11/69	FLA	INTERLK MAL
090097	1039946840	000.00	000.60	07/70	12/69	FLA	NONE
090099	1039946707	*020.00	001.30	07/70	01/68	FLA	INTERLK MAL
090133	1039946860	*130.00	*125.00	07/70	11/69	FLA	INTERLK MAL
090134	1039946700	000.00	003.50	07/70	07/68	FLA	INTERLK MAL
090136	1039946840	*024.00	000.50	07/70	10/69	FLA	INTERLK MAL
090138	1039946800	000.80	000.80	07/70	10/69	FLA	NONE
090140	1039946740	000.60	000.60	07/70	05/68	FLA	NONE
090142	1039946300	*008.00	000.60	07/70	04/70	FLA	NONE
090144	1039946800	*025.00	000.70	07/70	10/69	FLA	INTERLK MAL
090145	1039946800	*025.00	004.00	07/70	11/69	FLA	INTERLK MAL
090146	1039946700	*100.00	000.60	07/70	08/69	FLA	INTERLK MAL
090148	1039946840	001.00	000.60	08/70	05/69	FLA	NONE
090149	1039946800	*105.00	*065.00	08/70	11/69	FLA	INTERLK MAL
090150	1039946860	*070.00	000.60	08/70	12/69	FLA	INTERLK MAL
090151	1039446700	005.00	000.60	08/70	02/69	FLA	NONE
090152	1039946800	*035.00	000.50	08/70	03/70	FLA	INTERLK MAL
090153	1039946800	001.00	001.00	08/70	11/68	FLA	SEAL DIRTY
090154	1039946860	*135.00	000.70	08/70	01/70	FLA	INTERLK MAL
090143	1039957020	*050.00	000.80	07/70	01/70	FLA	INTERLK MAL
040100	995-7000	000.90	000.20	11/70	XX/XX	CAL	NONE
040101	995-7000	000.10	000.10	11/70	XX/XX	CAL	NONE
040102	995-7000	000.00	000.40	11/70	XX/XX	CAL	NONE
040103	995-7000	000.07	000.15	11/70	XX/XX	CAL	NONE
040104	915-8538	000.03	000.20	11/70	XX/XX	CAL	NONE
040105	995-7000	*150.00	000.30	11/70	XX/XX	CAL	UNKNOWN

MICROWAVE OVEN SURVEY
MANUFACTURER - ROPER

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
040106	995-7000	000.08	000.10	11/70	XX/XX	CAL	NONE
040107	995-7000	000.02	000.02	11/70	XX/XX	CAL	NONE
040108	995-7000	000.05	000.10	11/70	10/70	CAL	NONE
040109	995-7000	000.20	000.15	11/70	05/70	CAL	NONE
040110	995-7000	000.20	000.20	11/70	XX/XX	CAL	NONE
040111	995-7000	000.00	000.45	11/70	XX/XX	CAL	NONE
040112	995-7000	000.00	000.20	11/70	10/70	CAL	NONE
040113	995-7000	000.00	000.30	11/70	07/70	CAL	NONE
040114	995-7000	000.08	000.10	11/70	XX/XX	CAL	NONE
040115	015-8542	000.50	000.10	11/70	XX/XX	CAL	NONE
040116	995-7000	000.08	000.20	11/70	07/70	CAL	NONE
040117	995-7000	000.05	000.20	11/70	XX/XX	CAL	NONE
040118	995-7000	000.05	000.20	11/70	XX/XX	CAL	NONE
040119	995-7000	*012.00	000.10	11/70	XX/XX	CAL	INTERLK MAL

MANUFACTURER ROPER

MODEL 992

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	19.	19.	19.	100.00	100.00	100.00
0.0	19.	9.	9.	100.00	47.37	47.37
0.1 TO 1.0	0.	9.	9.	0.0	47.37	47.37
1.1 TO 5.0	0.	0.	0.	0.0	0.0	0.0
5.1 TO 10.0	0.	1.	1.	0.0	5.26	5.26
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.47	0.0
VARIANCE	1.86	-0.0
STANDARD DEVIATION	1.36	0.0
RANGE,HIGHEST ENTRY	6.00	0.0
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MANUFACTURER ROPER

MODEL 994

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	25.	25.	25.	100.00	100.00	100.00
0.0	2.	2.	0.	8.00	8.00	0.0
0.1 TO 1.0	4.	17.	5.	16.00	68.00	20.00
1.1 TO 5.0	1.	4.	2.	4.00	16.00	8.00
5.1 TO 10.0	1.	0.	1.	4.00	0.0	4.00
10.1 TO 20.0	3.	0.	3.	12.00	0.0	12.00
20.1 TO 30.0	3.	0.	3.	12.00	0.0	12.00
30.1 TO 40.0	3.	0.	3.	12.00	0.0	12.00
40.1 TO 199.9	8.	2.	8.	32.00	8.00	32.00
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	8.58	43.30
VARIANCE	752.92	2215.60
STANDARD DEVIATION	27.44	47.07
RANGE,HIGHEST ENTRY	125.00	140.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	2.00	17.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	8.00	68.00

MANUFACTURER ROPER

MODEL 995

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	21.	21.	21.	100.00	100.00	100.00
0.0	4.	0.	0.	19.05	0.0	0.0
0.1 TO 1.0	14.	21.	18.	66.67	100.00	85.71
1.1 TO 5.0	0.	0.	0.	0.0	0.0	0.0
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	1.	0.	1.	4.76	0.0	4.76
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	2.	0.	2.	9.52	0.0	9.52
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.22	10.21
VARIANCE	0.03	1147.80
STANDARD DEVIATION	0.17	33.88
RANGE,HIGHEST ENTRY	0.80	150.00
RANGE,LOWEST ENTRY	0.02	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	3.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	14.29

MICROWAVE OVEN SURVEY
MANUFACTURER - SAGE

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
080034	3015DT	000.00	000.00	06/70	XX/XX	D C	NONE
190155	3015DPD	*100.00	000.00	09/70	01/70	MD	INTERLK MAL
190156	3015D-PB	002.00	002.00	09/70	XX/XX	MD	NONE
200321	3015D-PB	000.20	000.20	09/70	08/69	MASS	NONE
200322	3015D-PM	000.40	000.10	09/70	09/69	MASS	NONE
200324	3015D-PB	000.00	000.10	09/70	YY/YY	MASS	NONE
200325	3015D-PB	000.50	000.50	09/70	12/69	MASS	NONE
200327	3015D-PBA2	000.60	000.50	09/70	YY/YY	MASS	NONE
200328	3015D-PB	000.30	000.25	09/70	YY/YY	MASS	NONE
200330	3015D-PB	002.20	001.80	09/70	YY/YY	MASS	NONE
200331	3015D-PBA2	000.15	000.15	09/70	YY/YY	MASS	NONE
200332	3015D-T	000.00	000.10	09/70	YY/YY	MASS	NONE
380333	3015D-PB	*010.00	000.40	09/70	05/70	R I	NONE
380334	3015D-PB	000.00	000.00	09/70	06/70	R I	NONE

MANUFACTURER SAGE

MODEL 3015D

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	14.	14.	14.	100.00	100.00	100.00
0.0	4.	3.	2.	28.57	21.43	14.29
0.1 TO 1.0	6.	9.	8.	42.86	64.29	57.14
1.1 TO 5.0	2.	2.	2.	14.29	14.29	14.29
5.1 TO 10.0	1.	0.	1.	7.14	0.0	7.14
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	1.	0.	1.	7.14	0.0	7.14
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.44	8.31
VARIANCE	0.42	703.29
STANDARD DEVIATION	0.64	26.52
RANGE,HIGHEST ENTRY	2.00	100.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	1.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	7.14

MICROWAVE OVEN SURVEY
MANUFACTURER - SHARPE

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
040034	R-5500	*021.00	000.30	08/70	12/69	CAL	UNKNOWN
040035	R-5500	000.50	000.00	08/70	01/70	CAL	NONE
040036	R-5500	002.00	000.00	08/70	12/69	CAL	NONE
040037	R-5500	*200.00	000.00	08/70	12/69	CAL	INTERLK MAL
040041	SR-5500	001.00	000.00	05/70	12/69	CAL	NONE
040045	R-5500	000.50	000.00	08/70	12/69	CAL	NONE
040046	R-5500	000.00	000.00	08/70	02/70	CAL	NONE
040047	R-5500	001.50	000.00	08/70	12/69	CAL	NONE
040050	R-5500	000.50	000.50	08/70	04/70	CAL	NONE
040090	R-5500	001.50	000.00	08/70	03/70	CAL	UNKNOWN
040091	R-5500	000.00	000.00	08/70	03/70	CAL	NONE
040092	R-5500	004.00	000.00	08/70	02/70	CAL	NONE

MANUFACTURER SHARPE

MODEL 5500

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	12.	12.	12.	100.00	100.00	100.00
0.0	2.	10.	2.	16.67	83.33	16.67
0.1 TO 1.0	4.	2.	4.	33.33	16.67	33.33
1.1 TO 5.0	4.	0.	4.	33.33	0.0	33.33
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	1.	0.	1.	8.33	0.0	8.33
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	1.	0.	1.	8.33	0.0	8.33

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.07	19.38
VARIANCE	0.03	3269.32
STANDARD DEVIATION	0.16	57.18
RANGE,HIGHEST ENTRY	0.50	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	2.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	16.67

MICROWAVE OVEN SURVEY
MANUFACTURER - TAPPAN

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
080038	57-0014	001.00	001.00	10/70	XX/66	D C	NONE
080039	R-4A	*120.00	*009.00	06/70	12/68	D C	INTERLK MAL
120143	R4-A	*190.00	002.00	06/70	11/67	ILL	UNKNOWN
120901	R-1 LOT 3	*200.00	000.00	11/70	XX/57	ILL	INTERLK MAL
120902	R4A-4	*160.00	003.00	08/70	06/67	ILL	INTERLK MAL
120903	R4A	*150.00	*006.00	08/70	02/67	ILL	INTERLK MAL
120904	R-3	*070.00	002.00	08/70	XX/60	ILL	INTERLK MAL
120905	R4A LOT 2	*150.00	003.00	08/70	XX/65	ILL	INTERLK MAL
120906	R4A LOT 2	*200.00	*006.00	08/70	XX/67	ILL	INTERLK MAL
120907	R4L LOT 1	*140.00	002.00	08/70	XX/61	ILL	INTERLK MAL
120908	R4A	*130.00	*007.00	08/70	XX/68	ILL	INTERLK MAL
120909	R4A	*200.00	000.00	08/70	XX/65	ILL	INTERLK MAL
120910	R1000	*200.00	002.50	08/70	XX/65	ILL	INTERLK MAL
120911	R4A	*090.00	003.50	08/70	XX/67	ILL	INTERLK MAL
120912	R4A 4L	*170.00	000.00	08/70	03/69	ILL	INTERLK MAL
120913	R4A LOT 3	*090.00	*008.00	88/70	08/67	ILL	INTERLK MAL
120914	R4A LOT 4L	*145.00	000.00	08/70	10/69	ILL	INTERLK MAL
120915	R4A LOT 4	*170.00	002.75	08/70	04/68	ILL	INTERLK MAL
120916	R3L LOT 1	*130.00	000.00	88/70	XX/60	ILL	INTERLK MAL
120917	R4A LOT 2	*095.00	000.00	08/70	XX/58	ILL	INTERLK MAL
120918	R4C LOT 1	*090.00	000.75	08/70	XX/60	ILL	INTERLK MAL
120919	R4A LOT 2	*200.00	*097.50	08/70	XX/67	ILL	INTERLK MAL
120920	R4A LOT 4	*200.00	*007.00	08/70	03/68	ILL	INTERLK MAL
120921	R4A LOT 4	*110.00	*055.00	08/70	09/67	ILL	INTERLK MAL
120922	R4A LOT 4	*190.00	*007.00	08/70	XX/68	ILL	INTERLK MAL
120923	R1040	*157.50	*035.00	08/70	XX/65	ILL	INTERLK MAL
120924	R-1 LOT 4	*100.00	*020.00	08/70	XX/66	ILL	INTERLK MAL
120925	R-2L LOT 4	*100.00	*012.00	08/70	XX/67	ILL	INTERLK MAL
120926	R4A LOT 4L	*180.00	001.00	08/70	XX/69	ILL	INTERLK MAL
120927	P4A LOT 1	*180.00	001.00	08/70	XX/61	ILL	INTERLK MAL
120928	R4A LOT 2	*150.00	002.00	08/70	10/65	ILL	INTERLK MAL
120929	R4A LOT 2	*045.00	003.00	08/70	XX/63	ILL	INTERLK MAL
120930	R4A LOT 2	*130.00	001.00	08/70	XX/67	ILL	INTERLK MAL
120931	R4A LOT 4C	*100.00	000.75	08/70	07/68	ILL	INTERLK MAL
120932	R-4A LOT 2	*190.00	000.50	08/70	XX/65	ILL	INTERLK MAL
120933	R-4A LOT 2	*200.00	001.00	08/70	04/65	ILL	INTERLK MAL
120934	R-4A LOT 4	*100.00	002.50	08/70	06/68	ILL	INTERLK MAL
120935	R-3L LOT 1	*090.00	002.00	08/70	07/63	ILL	INTERLK MAL
130936	R 1040	*200.00	*050.00	08/70	XX/67	IND	DOOR MSLN
130937	R 1040 LOT	*200.00	*045.00	08/70	XX/66	IND	INTERLK MAL
190121	R-4A	*120.00	*012.00	/8/70	12/67	MD	INTERLK MAL
290061	R-4A	000.00	002.00	06/70	11/68	N J	NONE
290062	R-4A	*175.00	000.00	07/70	01/66	N J	UNKNOWN
370085	1000	005.00	003.00	07/70	07/65	PENN	INTERLK MAL
370086	8-1000	*010.00	003.00	06/70	08/66	PENN	NONE
370103	B-1000	*040.00	*040.00	06/70	06/66	PENN	INTERLK MAL
370104	R4A	*150.00	003.00	07/70	06/66	PENN	INTERLK MAL
370113	R4A	*150.00	*010.00	07/70	XX/65	PENN	SEAL CRACKD
370115	R4A	*200.00	001.00	07/70	06/66	PENN	INTERLOCK
370124	1040	*120.00	*015.00	07/70	06/64	PENN	INTERLK MAL
370177	R-1000	*150.00	*015.00	07/70	06/67	PENN	INTERLK MAL

MICROWAVE OVEN SURVEY
MANUFACTURER - TAPPAN

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
370179	R-1000	*050.00	*007.00	09/70	XX/XX	PENN	INTERLK MAL
370180	R4A	005.00	005.00	09/70	XX/XX	PENN	NONE
010173	77-0015	*007.00	002.00	12/70	02/67	ALA	NONE
010174	770015	*007.00	*007.00	10/70	09/66	ALA	NONE
010176	77-00150	002.50	003.00	10/70	09/67	ALA	NONE
010178	77-0015	UNKNWN	001.00	10/70	06/66	ALA	NONE
010179	77-0015	003.00	002.50	10/70	03/68	ALA	NONE
010184	77-001	*017.00	*006.00	10/70	06/70	ALA	INTERLK MAL
030082	77-0015	000.00	*014.00	10/70	09/67	ARK	NONE
030149	0000770015	005.00	004.00	06/70	08/66	ARK	NONE
030150	0000770015	*035.00	005.00	10/70	02/66	ARK	INTERLK MAL
030157	0000770015	000.00	001.50	10/70	11/67	ARK	NONE
030158	0000770015	*007.00	*006.00	11/70	02/68	ARK	SEAL CRACKD
030166	0000770015	*200.00	*006.00	11/70	02/68	ARK	INTERLK MAL
030200	0000770015	*007.00	004.00	11/70	XX/68	ARK	HINGES JMMD
090210	77-0015	*017.00	*008.30	12/70	07/67	FLA	INTERLK MAL
090211	77-0015	005.00	*006.00	12/70	10/66	FLA	NONE
090212	77-0015	*012.00	*018.00	12/70	05/66	FLA	NONE
090213	77-0015	*030.00	*012.00	12/70	09/67	FLA	INTERLK MAL
090216	77-0015-13	*018.00	003.00	12/70	04/67	FLA	INTERLK MAL
090217	77-0015-13	*009.00	005.00	12/70	03/68	FLA	NONE
260072	7715	001.50	001.80	12/70	09/67	NEB	NONE
370108	770015	*010.00	*006.00	10/70	10/67	PENN	INTERLK MAL
370182	77-0015-17	003.00	003.00	07/70	11/67	PENN	NONE
370183	770015	003.00	001.00	12/70	06/67	PENN	NONE
370184	770015	*010.00	002.00	12/70	08/65	PENN	NONE
120127	770015	*006.00	004.00	12/70	10/67	ILL	NONE
120128	7715	005.00	003.00	11/70	11/67	ILL	NONE
120132	7715	001.50	001.00	11/70	12/65	ILL	NONE
120138	770015	000.00	*008.00	11/70	01/68	ILL	UNKNOWN
450025	7715-13	004.00	000.00	11/70	02/68	VA	NONE
010180	56-1139	000.20	000.20	06/70	06/70	ALA	NONE
010181	56-1139	000.60	000.60	10/70	04/70	ALA	NONE
010183	56-1139	000.10	000.10	10/70	07/70	ALA	NONE
010185	56-1139	001.50	001.50	10/70	06/70	ALA	NONE
090215	561139	000.50	000.50	10/70	07/70	FLA	NONE
120124	561139	000.00	002.00	12/70	04/70	ILL	NONE
120125	561139	000.00	000.80	11/70	07/70	ILL	NONE
120126	561139	000.00	000.20	11/70	09/70	ILL	NONE
120130	561139	000.00	000.00	11/70	09/70	ILL	NONE
120133	561139	000.00	003.00	11/70	10/70	ILL	NONE
120134	561139	000.00	000.00	11/70	09/70	ILL	NONE
120135	561139	000.00	000.20	11/70	09/70	ILL	NONE
120136	561139	000.00	001.00	11/70	05/70	ILL	POWERSWITCH
120137	56-1139	000.00	004.50	11/70	07/70	ILL	NONE
120139	561139	000.00	000.50	11/70	05/70	ILL	NONE
120140	561139	000.00	000.10	11/70	08/70	ILL	NONE
120141	56-1139	000.00	000.90	11/70	10/70	ILL	NONE
010182	77-1399	*011.50	*018.00	11/70	04/70	ALA	UNKNOWN
190120	77-1399	*030.00	000.75	10/70	05/70	MD	INTERLK MAL
200340	77-1399-17	005.00	005.00	06/70	08/70	MASS	HINGES WORN

MICROWAVE OVEN SURVEY
MANUFACTURER - TAPPAN

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	NARDA MW/SQ.CM. DOORS CLOSED	SURVEY DATA SURVEY DATE	SURVEY DATA PURCH DATE	STATE	CONDITION CODE
200341	77-1399	*013.00	005.00	12/70	05/70	MASS	INTERLK MAL
340001	77-1399	005.00	*011.00	12/70	03/70	OHIO	NONE
340002	77-1399	002.50	002.50	12/70	02/70	OHIO	NONE
340003	77-1399	002.50	*006.50	12/70	07/69	OHIO	NONE
340004	77-1399	*005.50	*014.00	12/70	08/69	OHIO	NONE
340005	77-1399	*013.00	002.50	12/70	XX/69	OHIO	NONE
340006	77-1399	*009.00	000.50	12/70	06/70	OHIO	NONE
340007	77-1399	*020.00	005.00	12/70	02/69	OHIO	NONE
340008	77-1399	*007.50	005.00	12/70	08/69	OHIO	NONE
340009	77-1399	000.50	001.00	12/70	06/69	OHIO	NONE
340010	77-1399	*020.00	001.00	12/70	03/70	OHIO	NONE
370500	77-1399	*030.00	003.00	12/70	06/69	PENN	INTERLK MAL
370501	77-1399	003.00	001.00	12/70	06/69	PENN	NONE
370502	77-1399	002.00	001.00	12/70	06/70	PENN	NONE
370504	77-1399	004.00	003.00	12/70	06/69	PENN	NONE
370505	77-1399	003.00	003.00	12/70	08/70	PENN	NONE
090214	57-1920	002.50	001.50	12/70	06/70	FLA	NONE
340011	57-1920	*006.50	*009.00	12/70	XX/XX	OHIO	NONE
340012	57-1920	003.00	004.00	12/70	XX/XX	OHIO	NONE
340013	57-1920	*010.00	*010.00	12/70	XX/XX	OHIO	NONE
370128	UNKNOWN	001.00	001.00	12/70	08/67	PENN	NONE

MANUFACTURER TAPPAN

MODEL R SERIES

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	54.	54.	54.	100.00	100.00	100.00
0.0	1.	7.	0.	1.85	12.96	0.0
0.1 TO 1.0	1.	10.	1.	1.85	18.52	1.85
1.1 TO 5.0	2.	17.	3.	3.70	31.48	5.56
5.1 TO 10.0	1.	9.	1.	1.85	16.67	1.85
10.1 TO 20.0	0.	5.	0.	0.0	9.26	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	1.	2.	1.	1.85	3.70	1.85
40.1 TO 199.9	38.	4.	38.	70.37	7.41	70.37
200 AND OVER	10.	0.	10.	18.52	0.0	18.52

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	9.59	128.49
VARIANCE	315.23	3719.32
STANDARD DEVIATION	17.75	60.99
RANGE,HIGHEST ENTRY	97.50	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	11.00	49.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	20.37	90.74

MANUFACTURER TAPPAN

MODEL 56-1139

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	17.	17.	17.	100.00	100.00	100.00
0.0	12.	2.	2.	70.59	11.76	11.76
0.1 TO 1.0	4.	11.	11.	23.53	64.71	64.71
1.1 TO 5.0	1.	4.	4.	5.88	23.53	23.53
5.1 TO 10.0	0.	0.	0.	0.0	0.0	0.0
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.95	0.17
VARIANCE	1.48	0.15
STANDARD DEVIATION	1.22	0.39
RANGE,HIGHEST ENTRY	4.50	1.50
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MANUFACTURER TAPPAN

MODEL 57-1920

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	4.	4.	4.	100.00	100.00	100.00
0.0	0.	0.	0.	0.0	0.0	0.0
0.1 TO 1.0	0.	0.	0.	0.0	0.0	0.0
1.1 TO 5.0	2.	2.	2.	50.00	50.00	50.00
5.1 TO 10.0	2.	2.	2.	50.00	50.00	50.00
10.1 TO 20.0	0.	0.	0.	0.0	0.0	0.0
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	6.13	5.50
VARIANCE	16.40	12.17
STANDARD DEVIATION	4.05	3.49
RANGE,HIGHEST ENTRY	10.00	10.00
RANGE,LOWEST ENTRY	1.50	2.50
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	0.0

MANUFACTURER TAPPAN

MODEL 77-1399

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	19.	19.	19.	100.00	100.00	100.00
0.0	0.	0.	0.	0.0	0.0	0.0
0.1 TO 1.0	1.	6.	1.	5.26	31.58	5.26
1.1 TO 5.0	8.	9.	6.	42.11	47.37	31.58
5.1 TO 10.0	3.	1.	3.	15.79	5.26	15.79
10.1 TO 20.0	5.	3.	7.	26.32	15.79	36.84
20.1 TO 30.0	2.	0.	2.	10.53	0.0	10.53
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	4.67	9.84
VARIANCE	22.94	83.22
STANDARD DEVIATION	4.79	9.12
RANGE,HIGHEST ENTRY	18.00	30.00
RANGE,LOWEST ENTRY	0.50	0.50
NUMBER OF OVENS WITH READINGS OVER TEN	3.00	7.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	15.79	36.84

MANUFACTURER TAPPAN

MODEL 77-15

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	28.	28.	28.	100.00	100.00	100.00
0.0	3.	1.	0.	10.71	3.57	0.0
0.1 TO 1.0	0.	2.	0.	0.0	7.14	0.0
1.1 TO 5.0	10.	14.	10.	35.71	50.00	35.71
5.1 TO 10.0	8.	8.	10.	28.57	28.57	35.71
10.1 TO 20.0	4.	3.	5.	14.29	10.71	17.86
20.1 TO 30.0	1.	0.	1.	3.57	0.0	3.57
30.1 TO 40.0	1.	0.	1.	3.57	0.0	3.57
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	1.	0.	1.	3.57	0.0	3.57

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	5.11	15.20
VARIANCE	16.68	1383.21
STANDARD DEVIATION	4.08	37.19
RANGE,HIGHEST ENTRY	18.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	3.00	7.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	10.71	25.00

MANUFACTURER TAPPAN

MODEL 77-15

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	28.	28.	28.	100.00	100.00	100.00
0.0	3.	1.	0.	10.71	3.57	0.0
0.1 TO 1.0	0.	2.	0.	0.0	7.14	0.0
1.1 TO 5.0	10.	14.	10.	35.71	50.00	35.71
5.1 TO 10.0	8.	8.	10.	28.57	28.57	35.71
10.1 TO 20.0	4.	3.	5.	14.29	10.71	17.86
20.1 TO 30.0	1.	0.	1.	3.57	0.0	3.57
30.1 TO 40.0	1.	0.	1.	3.57	0.0	3.57
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	1.	0.	1.	3.57	0.0	3.57

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	5.11	15.20
VARIANCE	16.68	1383.21
STANDARD DEVIATION	4.08	37.19
RANGE,HIGHEST ENTRY	18.00	200.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH EADINGS OVER TEN	3.00	7.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	10.71	25.00

MICROWAVE OVEN SURVEY
MANUFACTURER - THERMADO

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
040048	MTR-11	000.00	000.70	08/70	05/70	CAL	NONE
040049	TMR-11	000.50	000.00	08/70	03/70	CAL	NONE
040051	MTR-11	001.00	001.00	08/70	02/70	CAL	NONE
040052	MTR-24	000.50	000.50	08/70	06/70	CAL	NONE
200335	MTR 24	000.00	000.20	11/70	08/70	MASS	NONE
200336	MTR 24	000.00	000.30	11/70	08/70	MASS	NONE
200337	MTR 24	000.00	000.50	11/70	08/70	MASS	NONE
200338	MTR 24	000.00	*006.50	11/70	09/70	MASS	HINGES BRKN
190197	**MRT 24**	**000.00**	**000.00**	**10/70**	**09/70**	**MD**	**NONE**

MICROWAVE OVEN SURVEY
MANUFACTURER - THERMO

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN	CLOSED	SURVEY DATE	PURCH DATE		
030170	0000002500	*008.00	001.50	07/70	11/70	ARK	NONE
030008	2500	*010.00	*010.00	12/70	02/70	ARK	UNKNOWN
030136	0000002500	005.00	005.00	05/70	11/69	ARK	NONE
410006	2500	*200.00	*030.00	08/70	06/69	TENN	INTERLK MAL
410007	2500	*080.00	002.50	11/70	09/68	TENN	INTERLK MAL
420001	2500	*125.00	*015.00	11/70	02/69	TEX	LOOSE SCREW
420003	2500	000.00	000.50	11/70	XX/XX	TEX	NONE
420004	2500	000.00	000.50	11/70	05/69	TEX	WARN LIGHT
420005	2500	*015.00	005.00	11/70	07/69	TEX	INTERLK MAL

MANUFACTURER THERMOKINETICS

MODEL 2500

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	9.	9.	9.	100.00	100.00	100.00
0.0	2.	0.	0.	22.22	0.0	0.0
0.1 TO 1.0	0.	2.	2.	0.0	22.22	22.22
1.1 TO 5.0	1.	4.	1.	11.11	44.44	11.11
5.1 TO 10.0	2.	1.	2.	22.22	11.11	22.22
10.1 TO 20.0	1.	1.	1.	11.11	11.11	11.11
20.1 TO 30.0	0.	1.	0.	0.0	11.11	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	2.	0.	2.	22.22	0.0	22.22
200 AND OVER	1.	0.	1.	11.11	0.0	11.11

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	7.78	49.22
VARIANCE	92.44	5079.19
STANDARD DEVIATION	9.61	71.27
RANGE,HIGHEST ENTRY	30.00	200.00
RANGE,LOWEST ENTRY	0.50	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	2.00	4.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	22.22	44.44

MICROWAVE OVEN SURVEY
MANUFACTURER - TOSHIBA

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS		SURVEY DATA		STATE	CONDITION CODE
		OPEN.	CLOSED	SURVEY DATE	PURCH DATE		
010044	EK-602B	001.00	000.40	06/70	01/70	ALA	NONE
010048	ER602B	002.00	001.00	06/70	12/69	ALA	NONE
010066	ER-602B	002.50	000.00	06/70	01/70	ALA	NONE
010075	ER602B	000.00	000.00	06/70	12/69	ALA	NONE
080040	ER602	001.50	000.00	07/70	XX/XX	D C	NONE
090100	ER-602B	*006.50	000.35	07/70	01/70	FLA	NONE
090101	ER602B	005.00	000.15	07/70	03/70	FLA	NONE
090102	ER-602B	004.50	000.65	07/70	01/70	FLA	NONE
090103	ER-602B	*008.00	000.10	07/70	06/69	FLA	NONE
090104	ER-602B	000.00	000.20	07/70	12/69	FLA	NONE
090105	ER-602-B	000.00	000.15	07/70	12/69	FLA	NONE
090106	ER-602-B	003.50	000.10	07/70	12/69	FLA	NONE
090107	ER-602-B	002.50	001.80	07/70	11/69	FLA	NONE
090108	ER-602B	002.60	000.40	07/70	01/70	FLA	NONE
100100	ER602B	001.00	000.50	07/70	05/70	GA	NONE
100104	ER602B	001.20	001.00	07/70	02/70	GA	NONE
190051	ER602B	*011.00	000.20	05/70	10/69	MD	WARN LIGHT
190147	ER-602B	001.50	000.50	06/70	11/69	MD	NONE
190148	ER602B	003.00	000.30	08/70	XX/XX	MD	UNKNOWN
190149	ER602B	000.00	000.50	08/70	XX/XX	MD	UNKNOWN
190150	ER602B	000.00	000.10	08/70	XX/XX	MD	UNKNOWN
370043	ER-602B	000.00	000.00	06/70	12/69	PENN	NONE
450026	ER602B	001.80	000.15	08/70	XX/XX	VA	UNKNOWN
450027	ER602B	003.00	000.10	08/70	XX/XX	VA	UNKNOWN
480506	ER602B	000.00	000.10	07/70	06/70	WIS	NONE
480508	ER602B	000.80	000.00	07/70	05/70	WIS	NONE
480509	ER602B	003.00	000.40	07/70	05/70	WIS	NONE
480511	ER602B	002.00	000.30	07/70	04/70	WIS	NONE

MANUFACTURER TOSHIBA

MODEL EK602B

COMPILATION OF READINGS

	OPEN DOOR READINGS	CLOSED DOOR READINGS	MAXIMUM READINGS	OPEN DOOR READINGS PER CENT	CLOSED DOOR READINGS PER CENT	MAXIMUM READINGS PER CENT
TOTAL	28.	28.	28.	100.00	100.00	100.00
0.0	7.	5.	2.	25.00	17.86	7.14
0.1 TO 1.0	3.	22.	8.	10.71	78.57	28.57
1.1 TO 5.0	15.	1.	15.	53.57	3.57	53.57
5.1 TO 10.0	2.	0.	2.	7.14	0.0	7.14
10.1 TO 20.0	1.	0.	1.	3.57	0.0	3.57
20.1 TO 30.0	0.	0.	0.	0.0	0.0	0.0
30.1 TO 40.0	0.	0.	0.	0.0	0.0	0.0
40.1 TO 199.9	0.	0.	0.	0.0	0.0	0.0
200 AND OVER	0.	0.	0.	0.0	0.0	0.0

	CLOSED DOOR DATA	OPEN DOOR DATA
MEAN OF THE DATA	0.34	2.42
VARIANCE	0.16	6.90
STANDARD DEVIATION	0.39	2.63
RANGE,HIGHEST ENTRY	1.80	11.00
RANGE,LOWEST ENTRY	0.0	0.0
NUMBER OF OVENS WITH READINGS OVER TEN	0.0	1.00
NUMBER OF OVENS WITH READINGS OVER TEN (PER CENT)	0.0	3.57

MICROWAVE OVEN SURVEY
MANUFACTURER - WESTINGH

TEST NO.	MODEL NO.	NARDA MW/SQ.CM. DOORS OPEN	CLOSED	SURVEY DATA SURVEY DATE	PURCH DATE	STATE	CONDITION CODE
010029	520LXX1	000.00	000.15	05/70	12/69	ALA	NONE
120114	KM520LXX1	000.50	000.00	08/70	03/70	ILL	LATCH BRKN
150005	KM520LXX1	000.00	000.90	06/70	XX/XX	KAN	NONE
190058	KM520LXX1	000.00	000.25	05/70	04/70	MD	NONE
370110	KM520LXX1	000.00	000.00	07/70	12/69	PENN	NONE
370126	KM520LXX1	000.00	000.00	07/70	12/69	PENN	NONE
370129	520LXX1	000.00	000.00	07/70	02/70	PENN	NONE

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Accession No.

USDHEW, Public Health Service, Food and Drug Administration, Bureau of Radiological Health. DHEW Publication No. (FDA) 72-8007, BRH Publication No. BRH/DEP 72-2 (August 1971) 156 pp. (limited distribution).

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DIVISION OF ELECTRONIC PRODUCTS

Technical Reports

(continued from inside of front cover)

	Title
BRH/DEP 70-20	Investigation of the Response of the Microlite 287 Probe to Microwave Fields (August 1970) (NTIS, PB 193 223, $3.00)
BRH/DEP 70-21	Evaluation of an X-radiation Dosimetry Service for Home Television Receivers (August 1970) (NTIS, PB 193 487, $3.00)
BRH/DEP 70-22	Report of Tests for X-ray Emission from a Rayotron® Electrostatic Generator and Particle Accelerator (August 1970) (NTIS, PB 193 522, $3.00)
BRH/DEP 70-23	Microwave Oven Test Load Evaluation and Determination of Internal Microwave Energy Distribution (August 1970) (NTIS, PB 193 804, $3.00)
BRH/DEP 70-24	In-Plant Survey of Television Receivers for X-radiation Emission Capability (September 1970) (NTIS, PB 194 316, $3.00)
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BRH/DEP 71-8	Evaluation of the Westinghouse Capacitor Discharge Mobile X-ray Machine (May 1971) (NTIS, PB 200 400) (GPO, $0.35)
BRH/DEP 72-1	Evaluation of the Toshiba Capacitor Discharge Mobile X-ray Machine (August 1971)
BRH/DEP 72-2	Results of the 1970 Microwave Oven Survey (August 1971)